



Resort Township

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1988

source Use anagement Plan

Resort Township

Resource Use Management Plan

HD268.R47R47 1988

Prepared for:

Resort Township

Prepared by:

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Division of Land & Water
Management
Great Lakes Shoreland Section
Michigan Department of Natural
Resources
and
Office of Planning and Zoning
Emmet County

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**Resort Township
Resource Use Management Plan**

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* * *

We also wish to acknowledge the Resort Township Board for
financial assistance and
Township residents who participated in this project.

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INTRODUCTION

The high quality of life found in Resort Township is in part a result of the outstanding variety of natural resources and scenic amenities offered within the Township. These same resources and amenities, however, will attract development to the area which will either positively or negatively impact the environment and the perceived quality of life within the Township.



A desire to protect Resort Township's resources and guide future development activities has led to the formation of the Resource Use Management Plan, as initiated by the Resort Township Planning Commission.

PURPOSE

The purpose of the Resort Township Resource Use Management Plan is to provide guidelines for future, specific land use planning. The plan will accomplish the following items to fulfill its purpose.

- Gather background information regarding human and natural resources found within Resort Township.
- Gather input from residents concerning potential future developments and their perception of the Township resources.
- Analyze existing resources and land uses, and any associated problems or concerns.
- Identify goals and policies for managing the Township resources.
- Develop strategies for improvements and protection of resources especially coastal area and waterfront resources.
- Develop an implementation program to carry out the strategies.

PROCESS

The Resort Township Resource Use Management Plan was developed over a period of approximately seven months. It involved periodic meetings by the Resort Township Planning Commission and numerous sub-committee meetings. Development of the Plan was assisted by the consulting firm of Ayres, Lewis, Norris and May, Inc.

A primary consideration in development of this Plan was the incorporation of citizen input. This input was gathered at the monthly meetings and through a citizen questionnaire.

The planning process involved four major work elements. These elements are identified as follows:

- 1) **Background Studies and Analysis** - This task involves an inventory and analysis of the existing conditions of the Township. This includes such physical features such as land use, population, recreation, transportation, etc.
 - 2) **Community Input** - As mentioned above, the concerns of the Township residents were viewed as an important component within the overall plan. A questionnaire and community meetings were used to gather input from the residents.
 - 3) **Identification of Concerns, Goals and Policies** - Upon completion of the background studies and analysis of existing conditions and input from local citizens, the special concerns, problems, and needs of the Township were identified.
 - 4) **Development of Final Plan and Implementation Strategy** - The end product of this planning process is the final plan which documents this process and develops strategies to guide future growth within the Township.
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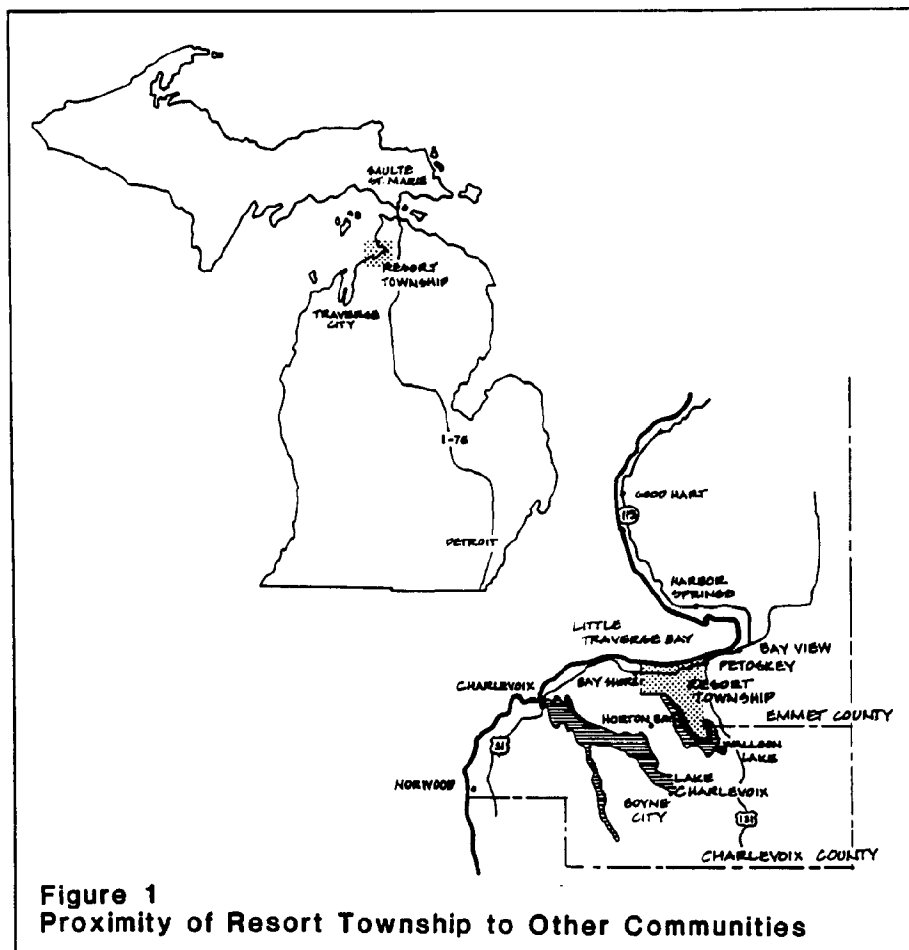
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Background Studies—

COMMUNITY DESCRIPTION

Regional Context

Resort Township is located within a highly scenic resort region of Michigan. Found in the southwest corner of Emmet County, Resort Township is bordered on the north by Little Traverse Bay, on the east by Bear Creek Township and the north arm of Walloon Lake, on the south and west by Walloon Lake and Charlevoix County. The City of Petoskey borders the northeast corner of Resort Township. The City of Charlevoix and Traverse City are approximately 10 and 62 miles southwest of Resort Township. Figure 1 illustrates Resort Township's proximity to a number of other communities in Michigan.



Community Character

The outstanding natural resources found within Resort Township and the close proximity of the Township to resort centers such as the cities of Petoskey, Charlevoix and Boyne, help to make Resort Township an attractive living environment. The characteristics of those who reside and/or are employed in the Township vary. Many individuals reside in Resort Township on a seasonal basis as indicated by the 1988 Inventory of Land Uses and the Walloon Lake Association members list. Those who reside in Resort Township part of the year live in other areas of Michigan such as the cities of Birmingham, Bloomfield Hills and Ann Arbor, and in other states such as Florida, Illinois and Indiana during the off seasons. The majority of these seasonal residents rent or own single family homes fronting Walloon Lake.

Most of the year-round residents live within several relatively new subdivisions in the northeast portion of Resort Township and in single family homes scattered throughout the Township bordering the main roads. These year-round residents are either employed by industrial or commercial businesses within the Township, self-employed, retired or find employment in nearby communities such as the cities of Petoskey and Charlevoix. Agricultural activities account for much of the self-employment within the Township. Many Resort Township residents actively farm land cleared by their ancestors who founded the Township.

Historical Context

The following information on the history of Resort Township is taken from the "Historical Notes About Resort Township" prepared by the Resort Township History Committee¹.

- 1 Resort Township History Committee: Alden Genshaw, Frank Holzchu, Fred Miller, Gilbert Morford, Gorden Rehkopf, Mildred Rehkopf, and Edna Risk.

Prior to the arrival of the white settlers, the area now known as Resort Township was inhabited by Indians of the Ottawa Tribe. Most of these Indians spent the winter months farther south but returned year after year to their settlements along the Bay and Walloon Lake. Access to Walloon Lake was not easy; it required a one mile land portage from Little Traverse Bay to the head of the Lake. The Indians, however, liked to camp near Walloon Lake because there they found good fishing and hunting opportunities. After the arrival of the white settlers, the Indians stayed throughout the winter months and helped in the lumber camps. For many years white settlers and Indians were friendly neighbors.

The boundaries of the area now known as Resort Township changed several times between 1853 and 1897. In 1853, this area was included in the newly organized Emmet County. In 1869, this area became part of Charlevoix County. The Charlevoix County Board of Supervisors organized Resort Township in 1880. In 1896, however, Resort Township was attached again to Emmet County by an act of the legislature. In 1897 the Emmet County Board of Supervisors altered the boundaries once again which created Resort Township as it is known today.

The major activities carried out by the new Township officials and settlers included building new roads and maintaining the schools. Included among the list of Township founders are the names Bacon, Botsford, Couch, Conn, Cole, Davis, Depew, Ernot, Eppler, Genshaw, Grimes, Henderson, Light, March, Morford, Miller, McConnell, Nadolsky, Nickles, Piehl, Ranall, Ramsby, Rehkopf, Reise, Rebery, Kalbfleisch, Shepard, Stark, Storck, Tubbs, Williams, Wright, Woode and Zirk. Several descendants of these early settlers live in Resort Township today.

Growth Characteristics

The natural resources of the Township and the close proximity of the Township to urban centers has also influenced the types of growth and development experienced by the Township. The once abundant deposits of natural limestone, for example, supported several industrial businesses along the northern boundary of Resort Township. As noted in the "Historical Notes About Resort Township",

the Petoskey Lime Company was started along the shores of Little Traverse Bay in 1884. This company changed hands in 1912 and became the Northern Lime Company, which continued until the 1940's. In 1920 the Petoskey Portland Cement Company began operating a two-kiln cement plant within the coastal area. This company continued to expand its operation until the 1950's when Penn Dixie took over. The Penn Dixie operation employed as many as 300 workers at one time, but went bankrupt in about 1980 due to financial difficulties. In 1981 the Dundee Cement Company acquired the property via public auction, but never reopened the plant.

In addition to the limestone resources, the timber resources of Resort Township supported a variety of businesses in the early years. Several saw mills, a wooden bowl factory, a broom factory and a cedar shingle mill were operating in the early 1900's. Today, only a veneer manufacturing operation is located in Resort Township.

The clearing of woodlands during the beginning years of Resort Township created excellent opportunities for agricultural activities. Soils which were prime for forests were also prime for farming. Consequently, agriculture has been the dominant land use throughout the Township's history.

Today development pressures for residential and recreational properties are beginning to impact these valuable agricultural lands. Increased demand for housing in scenic areas which are close to urban centers and their associated conveniences is evident in Resort Township. It is because of these demands and anticipated growth that this Management Plan has been developed.

POPULATION

Resort Township has experienced substantial growth in population since 1960 as shown in Table 1. The total growth rate from 1960 to 1980 for Resort Township was over 125%. This growth rate has been consistently greater than Emmet County's total growth rate of 44.6%. The 1980 census indicated Resort Township had 1,687 people, ranking it fourth in population among all Emmet County municipalities.

Characteristics

A review of the general population characteristics is necessary to provide local government with guidelines in determining future land use, community facility and service needs. The following is a summarization of general population characteristics for Resort Township. These statistics were compiled from U.S. Bureau of Census Data. Other statistical information is presented in Tables 1 and 2.

1. In 1980, Resort's population was 1,687, of which 866 or 51.3% were female and 821 or 48.7% were male.
2. The median age was 28.7, while 31.6% were under 18 years old and 9.0% were 65 years and over.
3. The population distribution by age for 1970 and 1980 is displayed in Table 2. The comparison shows that the preschool and school age population declined from 40.4% in 1970 to 31.7% in 1980. During that same time period the labor force population grew from 50.3% to 59.4% and the elderly population decreased slightly from 9.3% to 9.0%.

Table I
Emmet County
Population Change by Township, City and Village

	<u>1980</u>	<u>% Change from 1970</u>	<u>1970</u>	<u>% Change from 1960</u>	<u>1960</u>
Emmet County	22,992	25.4	18,331	15.2	15,904
Townships:					
Resort	1,687	67.2	1,009	34.9	748
Bear Creek	3,287	34.2	2,450	31.8	1,859
Bliss	441	56.4	282	-5.4	298
Carp Lake	637	45.1	439	-5.4	464
Center	435	24.6	349	62.3	215
Cross Village	215	16.2	185	32.1	140
Friendship	467	94.6	240	-24.5	318
Littlefield	1,822	43.9	1,266	16.0	906
Little Traverse	1,574	59.8	985	63.6	602
McKinley	961	15.1	835	-1.0	843
Maple River	654	57.6	415	23.9	335
Pleasant View	212	71.0	124	-37.4	198
Readmond	356	52.1	234	-4.9	246
Springvale	1,073	61.8	663	42.0	467
Wawatam	510	18.3	431	17.1	368
West Traverse	997	137.4	420	28.8	326
Cities and Villages:					
Harbor Springs	1,567	-5.7	1,662	16.0	1,433
Alanson	508	40.3	362	24.8	290
Pellston	565	20.5	346	9.3	429
Petoskey	6,097	-3.9	6,342	3.3	6,138

Source: 1980 U.S. Census

Table 2
Population Characteristics by Age
Resort Township, Emmet County and State of Michigan

Government Unit	Age (years)	1970 Population	Total	1980 Population	% of Total
Resort Township	-18	408	40.4	534	31.7
	18-64	507	50.3	1,002	59.4
	+64	94	9.3	151	9.0
Total		1,009	100.0	1,687	100.1
Emmet County	-18	6,728	36.7	6,714	29.2
	18-64	9,367	51.1	13,404	58.3
	+64	2,218	12.1	2,874	12.5
Total		18,331	99.9	22,992	100.0
State of Michigan	-18	3,248,280	36.6	2,750,837	29.7
	18-64	4,872,421	54.9	5,594,295	60.4
	+64	754,382	8.5	907,684	9.8
Total		8,875,083	100.0	9,262,078	99.0

Source: U.S. Bureau of Census 1980, 1970 and ALNM

4. Based on inventory information gathered in 1988, approximately 183 seasonal dwelling units are found in Resort Township. Assuming a 3.0 person occupancy rate, the seasonal population could potentially number 549 persons on any given day in Resort Township. In addition to the seasonal housing inventory, two motels located along U.S. 31 provide accommodations for approximately 80 persons.

Population Trends and Projections

Population trends for Resort Township are shown in Table 1. Resort Township grew 34.9% from 1960 to 1970 and 67.2% from 1970 to 1980. In comparison with surrounding villages, cities and townships, Resort Township ranked fourth in population growth from 1970 to 1980.

The three factors which influence population characteristics and trends are birth, death and migration. Of these three factors, in and out migration are very much influenced by local government decisions which affect economic conditions, employment opportunities, community facilities and services, and local development policies.

In addition to population trends, population projections provide local government with useful guidelines in determining future needs and planning. Although population cannot be predicted with absolute accuracy, a reasonable estimation can be determined. Population projections provided by Emmet County are presented in Table 3. The Township's population is expected to grow by 26% from 1980 to 1990.

This population projection table does not indicate the potential increase in year-round or seasonal population which may occur as a result of the Bay Resort project. This project proposes a mixed-use development to be located on property owned by the Dundee Cement Company. Most of the property is located just west of the City of Petoskey limits and bordered by Townline Road, Little Traverse Bay and U.S. 31. The project site encompasses approximately six miles of Lake

Table 3
Emmet County
Population Projections by Township, City and Villages

Townships	1985	1990	2000
Resort	1,932	2,141	2,560
Bear Creek	3,700	4,128	4,985
Bliss	500	556	669
Carp Lake	718	800	966
Center	497	551	660
Cross Village	247	273	326
Friendship	528	588	708
Littlefield	2,070	2,301	2,764
Little Traverse	1,794	1,992	2,388
McKinley	1,095	1,216	1,458
Mapleriver	746	828	992
Pleasantview	246	271	320
Readmond	407	451	540
Springvale	1,209	1,349	1,628
Wawatam	578	643	774
West Traverse	1,033	1,192	1,512
Sub-Total	17,300	19,280	23,250
Cities and Villages:			
Harbor Springs	1,500	1,570	1,650
Petoskey	6,000	6,300	6,600
TOTAL	24,800	27,150	31,500

Source: Emmet County Solid Waste Management Plan

Michigan shoreline. An estimated 3,000 dwelling units have been proposed by the developers. The full impact on seasonal and year round population in Resort Township, added by the Bay Resort development, would not be realized until approximately the year 2010.

Table 4 shows a population projection for Resort Township including the potential population residing within the Bay Resort development. A 3.0 person per dwelling unit was used to calculate the population projection.

Table 4
Resort Township
Population Projections Including the Potential Bay Resort Population

	1985	1990	2000	2010
Resort	1,932	2,141	8,141	11,560

Source: ALNM .

Population Analysis

A comparison of Township, County and State data reveals that Resort Township has a lower median age (28.7) than Emmet County (30.1) and the State of Michigan (28.8). In 1980 the Township also had a lower percentage of persons 65 years and over (9.0%) compared with Emmet County (12.5%) and the State of Michigan (9.8%). The percentage of persons in the preschool and school age population and the labor force population, however, was similar in 1980 for Resort Township, the County, and the State.

ECONOMY

Tax Base

Residential land use has been the predominant contributor to the tax base of Resort Township. A comparison of State equalized valuation is presented in Table 5. Residential land use, in 1987, accounted for approximately 81% of the total tax base. Furthermore, residential valuation increased approximately 36.2% from 1983 to 1987.

Commercial valuation also increased over the four year period by approximately 47.2%. Industrial and agricultural valuation, however, dropped between 1983 and 1987. Table 5 shows a substantial drop in State equalized valuation for industry in 1985.

Employment Type

During the 1988 land use inventory, both major and minor employers were identified. As indicated by the list of employers in Resort Township, shown in Table 6, industrial businesses appear to provide most of the employment within the Township. Given the limited amount of employment opportunities within Resort Township, an assumption can be made that the majority of residents are self-employed or find employment elsewhere, possibly in Petoskey or Charlevoix.

Table 5
Resort Township
State Equalized Valuation by Class of Property

Class	1987 SEV	1985 SEV	1983 SEV	% Change from 1983 to 1987
Agriculture *	2,881,316	3,179,700	3,527,754	-18.3%
Commercial	1,493,722	999,815	1,015,073	47.2%
Industrial	2,631,800	1,295,200	3,545,700	-25.8%
Residential *	30,372,600	25,547,000	22,307,369	36.2%
Timber-Cutover	-----	-----	164,565	-----
Total Real	37,379,438	31,021,715	30,560,461	22.3%
Total Real Plus Personal	39,028,539	32,644,554	33,575,436	16.24%

* Since 1984 selective agricultural parcels less than 20 acres have been reclassified as residential. This has contributed to the decrease in agricultural SEV and increases in residential.

Source: Emmet County Equalization Department and Emmet County Office of Planning and Zoning

Table 6
Resort Township
Employers

Employer	Product/Service	Employees
Manthei Company	manufacturing veneer	95
Petoskey Plastics	manufacturing plastic products	75
Northwood Transportation	bulk cement trucking	20-25
Brecheizen	diesel service	16
Gray's Patrol Service	cottage maintenance, boat storage	12
Steindler Paper Company	distributor of paper products	9
Jensen's Animal Hospital	veterinary services	8 full-time 2 part-time
Bay Area Motors	used car dealership	5
Artisan's Gallery	handcrafted sales	4 full-time 3 seasonal
Coach House and Carriage House Motels	motel	1 full-time 3 seasonal
Ed's Electric	repair of electrical appliances	1
Public Letter Shop	bookkeeping	*
David Kay Miller	dentist	*
Joseph's World	antique dealer	*
Northern Pet Center	veterinary hospital and animal boarding facility	*
Sturgeon River Pottery	handcrafted pottery	*
Nicol Pottery	handcrafted pottery	*

* Less than four employees or information unavailable.

Source: Emmet County Office of Planning and Zoning and ALNM Inventory

PUBLIC FACILITIES

Public facilities are an important component in the scheme of a growing township. Recreation, government and education facilities as well as police and fire protection services may be both positively and negatively impacted by future economic development. A general understanding of the current supply and characteristics of these public facilities will assist planners and local government in determining whether existing facilities are capable of serving additional needs.

Parks and Recreation Facilities

Although Resort Township has no large developed recreation facilities, there are a number of areas within the Township which offer opportunities for informal recreational activities. The five public access sites to Walloon Lake and two to Lake Michigan, for instance, provide limited access to these two lakes. Table 7 shows a breakdown of acreage for waterfront public access sites in Resort Township. Nine miles of Walloon Lake frontage and approximately six miles of Little Traverse Bay frontage are located within Resort Township. Almost all of the Little Traverse Bay and Walloon Lake frontage, however, is under private ownership. In addition to the limited lake access, 10 acres of school property located off Resort Pike may be used by the public for recreational purposes. The use of this site after school hours, however, is primarily by young children who are attracted to the available playground equipment.

Resort Township also owns 50 acres of wooded land, known as the Black property, located between Lake Grove Road and Resort Pike in the southern portion of the Township. This property was donated to the Township with the provision that no motorized vehicle use would be allowed on the land and the parcel would be maintained in its natural state.

Table 7
Resort Township Recreational Lands

Type	Acres
School Property	10.0
* Public Access to Walloon Lake	
- Resort Pike Road	--
- Lake Grove Road/Morford Road	1.1
- Townsend Road	0.2
- Stolt Road	0.2
- Cherry Avenue	0.2
* Public Access to Lake Michigan	
- Horton Bay Road (steep grade)	0.2
- Townline Road (footpath)	0.2
Conservation Areas	
- Black Property	50.0
- Harold Covert Preserve	61.5
- Woodland and Partnership property	40.0
- Indian Garden Group property	100.0
- Reycraft Preserve	40.0
Total Acreage (excluding Conservation Areas)	13.1

-- Less than one acre, exact size not provided

* All unimproved with no turnarounds or parking areas and generally restricted to a right of way which may or may not be 66 feet.

Source: Emmet County Staff

Another wooded area having similar use restrictions is the Harold Covert Preserve, known locally as the old Bacon Farm, located south of the Black property. The Little Traverse Nature Conservancy, a private organization, manages this land as a wildlife preserve. Informal recreational activities such as hiking, bird watching, and cross-country skiing are allowed in the preserve while hunting, camping and motorized vehicles are not permitted.

In addition, the Walloon Lake Association Trust manages approximately 140 conservation acres located in the southeastern portion of the Township. The Woodland Partnership property accounts for 40 of these acres. The other 100 acres is known as the Indian Garden Group property.

A fifth parcel maintained as conservation land is known as the Reycraft Preserve. This forested land is managed by Petoskey Public Schools as part of their forestry management program.

Unlike many other Townships in northern Michigan, no State land is found within Resort Township. Consequently, the potential for development of State recreation facilities or conservation areas will be limited.

Table 7 provides an inventory of Township recreation and conservation sites. This includes the school property, waterfront access sites and conservation areas. It should be noted that a number of the waterfront access sites offer only limited access and are unimproved. Steep terrain, narrow frontage, restricted parking and limited turn around areas make the landing of small boats difficult if not impossible.

Many Resort Township residents utilize the 185 acres of parkland offered within the City of Petoskey. As noted by the City of Petoskey's City Planner, approximately 17% of those participating in organized recreational activities are residents of Resort Township. Resort Township contributes to the City of Petoskey's Recreation Program; which means Resort Township residents do not have to pay extra fees to utilize the City of Petoskey's recreation facilities.

Recreation facilities, in the City of Petoskey, most often used by Resort Township residents are summarized in Table 8 and include: Turcott Field, Bay Front Park, Magnus Park, Petoskey Winter Sports Park and Pennsylvania Park. Ballgame fields are located in Turcott Field and Bay Front Park. In addition, Bay Front Park offers the only boat launch and marina facility in the City. Both year round and transient boat slips are found within the Bay Front Park marina. As indicated by the City Planner, the boat launch and marina are heavily used. The Magnus City Park offers a swimming beach on Little Traverse Bay in addition to a campground. Year round recreational opportunities are available at the Petoskey Winter Sports Park. Activities provided within this 20 acre multi-facility park located in the northeastern portion of the City include cross-country and downhill skiing, figure and sport skating and soccer. The Pennsylvania Park is located in downtown Petoskey and is used primarily for community events and as a passive recreation area. In addition, Resort Township residents may participate in the excellent salmon and steelhead fishing at the mouth of the Bear River in the City of Petoskey.

Table 8
Recreational Opportunities
Offered Within the City of Petoskey

Park	Activities Offered
Turcott Field	Baseball/Softball
Bay Front Park	Baseball/Softball Boat Launch Marina Picnic Areas
Magnus City Park	Swimming Beach Campground Playground
Petoskey Winter Sports Park	Downhill and Cross-Country Skiing Figure and Sport Skating Soccer
Pennsylvania Park	Community Events

Source: City Planner, City of Petoskey
Personal Communication, 1988

Although there are a number of recreation facilities within the City of Petoskey, the current lack of developed recreational lands within Resort Township must be addressed in future planning efforts. Table 9 suggests the desirable amount and diversity of recreational facilities appropriate within the Township.

Table 9
Recreation Standards

Type of Area	Acres Per 1000 Population	Radius of Area Served
Playgrounds	1.5	0.5 miles
Neighborhood Parks	2.0	0.5 miles
Playfields	1.5	1.5 miles

Source: Joseph De Chiara and Lee Koppleman, Planning Design Criteria - Van Nostrand Reinhold Co., 1969, pg. 203.

By 1990, the Township will need approximately three acres of playgrounds, four acres of neighborhood parks, and three acres of playfields. In addition to the diversity of recreational activities provided, the location of park facilities should be considered when planning for future recreation needs. Medium density residential subdivisions should have playgrounds within one half mile. Recreation facilities in Petoskey, for example, may be available to Resort Township residents; however, the distance of those facilities may make them inaccessible to many including small children and other persons who lack available transportation. The importance of determining appropriate locations for recreational facilities will be discussed further in later chapters.

State and national recreation surveys consistently rank water recreation activities as one of the most popular. This is supported by the Resort Township 1988 Citizen Questionnaire, which found that there is a strong desire among Resort Township residents for additional waterfront access and parks. Although most of the Little Traverse Bay frontage and Walloon Lake frontage is controlled by private ownership, there may be opportunities in the future for acquiring lands for public use. Presently, Resort Township is considering land north of U.S. 31 and west of Resort Pike Road for use as a public roadside park which overlooks Little Traverse Bay. It may also be possible to negotiate a land swap, lease or easements for waterfront access sites within the Bay Resort Project, preferably towards the western end of the development.

Government Facilities

The new Town Hall, built in 1982, is located on the west side of Resort Pike between Sterzik Road and Intertown Road. This attractive modern facility replaced the old Town Hall, located at U.S. 31 and Resort Pike, which was converted into an antique store. Although the new Town Hall adequately accommodates public meetings, there is a growing need for additional office space.

Education Facilities

Public education is provided by the Petoskey Public Schools. School age residents of Resort Township travel by bus to schools in the City of Petoskey. In addition to one high school, one junior high, and three elementary schools in Petoskey, there are two parochial schools and one private school. The only school property in Resort Township is located on the east side of Resort Pike Road across from the new Town Hall facility. Learning disabled students attend special programs provided by the Char-Em. Intermediate School District.

In addition to K-12 grades offered by Petoskey Public Schools, North Central Michigan College located in the City of Petoskey, offers two year programs and special four year programs such as business in cooperation with Lake Superior State College.

Police and Fire Protection

Police protection is provided by the Emmet County Sheriff and the Michigan State Police. Fire protection is provided by Bear Creek and Resort Township Joint Volunteer Fire Department. The existing fire service is currently meeting the needs of residents and businesses located within the eastern portion of the Township. Response times to the western portion of Resort Township, however, are extremely poor because many western areas are beyond five miles of the fire station. The Township is presently pursuing the potential use of the vacant Air Force Station off of Townline Road as a water resource.

In the future, fire stations should be located in close proximity to the centers of development, as recommended by Resort Township's Fire Chief. The Bay Resort development is one such potential area which will require a major investment in fire protection manpower and equipment to properly protect new development areas in the Township. Furthermore, an adequate central water supply system with domestic mains is needed to service other high value areas of the Township. There are five existing dry hydrants in the Township which serve a radius of 1000 feet each.

The adoption of a Fire Prevention Code is also recommended.

Based upon discussions with the Emmet County police sheriff there are seven patrol cars, one animal patrol car and two unmarked police cars, plus a staff of 14 law officers currently serving Emmet County. The current police service is capable of meeting existing needs. With future Bay Resort development, however, approximately two or three additional patrol cars and associated personnel would be required.

Water, Waste Water and Solid Waste Disposal

The majority of Resort Township residents obtain their fresh water through on-site wells and dispose of waste water through on-site septic fields. Vantage View Subdivision, however, is connected to the City of Petoskey sewer and water lines. This is the only development in the Township serviced by the existing franchise agreement with the City of Petoskey for sewer and water.

The Township is currently involved in discussions with the City of Petoskey for franchise agreements to service additional areas within the Township. While the boundaries of future service districts are unknown, the availability of utilities will impact the rate and type of development and must therefore be carefully planned.

Most of the solid waste generated in Resort Township is removed by private haulers and taken to the Emmet County Transfer Station located in Little Traverse Township. Recently, this facility expanded its production by adding a second compactor with financial assistance made available through the Clean Michigan Fund. Furthermore, a recycling center connected to the transfer station is currently under construction.

Presently, the privately owned Charlevoix County Sanitary Landfill serves the Emmet County transfer station. Charlevoix County and Emmet County are now in the process of updating their management plans for long term disposal of solid waste.

TRANSPORTATION

A review of the existing transportation network is an important component in the Resource Use Management Plan because future development within Resort Township will be influenced by the Township's transportation characteristics. Identification of the various roads within the Township and an analysis of future needs follows:

U.S. 31 is the dominant east/west route through the Township. It is a state highway under the jurisdiction of the Michigan Department of Transportation. The total length of U.S. 31 passing through Resort Township is approximately six miles. The other roads in Resort Township fall into the primary and local categories and are maintained by the Emmet County Road Commission.

Public roads within the Township are categorized as follows:

State Route	covering approximately 6 miles in length
Primary Hardtop	covering approximately 7.8 miles in length
Local Hardtop	covering approximately 32 miles in length
Local Gravel	covering approximately 8.8 miles in length

From a regional perspective, U.S. 31 connects the communities of Traverse City, Charlevoix, and Petoskey. U.S. 31 links Resort Township to Mackinaw City and U.S. 131 links Resort Township to the City of Cadillac. The increasing average daily traffic counts, displayed in Table 10, confirm the use of this state highway as a principal, rural artery connecting these communities.

An important east/west connector road is Intertown Road which crosses U.S. 131 east of the Township and several roads within the Township including Lake Grove Road and Resort Pike Road.

Table 10
Resort Township
Average Daily Traffic Counts Major Intersections

Location	1986	1983	1980
U.S. 31 and 131 One Block West	13,000	-----	9,200
U.S. 31 and Eppler Road One Block West	8,000	8,200	-----
U.S. 31 between Lake Grove Road and Resort Pike Road	8,000	6,500	-----
U.S. 31 between Camp Dagget Road and Townsend Road	5,600	-----	5,700

Source: Michigan Department of Transportation

Horton Bay Road is a County route within Resort Township. This road connects U.S. 31 with the community of Horton Bay in Charlevoix County. Horton Bay Road, Resort Pike Road and Morford Road are classified as county primary roads by the Emmet County Road Commission. The other roads in the Township are classified as local roads, most of which are black topped.

Based upon information gathered from the County Road Engineer and the 1988 Resort Township Citizen Questionnaire, the main roads within the Township are adequate and capable of handling existing traffic. There are concerns, however, that Resort Pike Road and Intertown Road are not adequately accommodating existing traffic volumes and will be adversely impacted by additional traffic loads.

Currently, a U.S. 31 bypass proposal is being examined by the Michigan Department of Transportation. The purpose of this bypass is to relieve traffic congestion along the urbanizing U.S. 31 corridor which is caused by population growth, commercial development, industrial expansion and new resort communities. A U.S. 31 by-pass would offer an alternative travel route, thereby relieving some traffic demands on existing routes. A new thoroughfare could also have many negative effects to the Township involving environmental, social and economic impacts. The bypass concept will also have to be carefully studied to determine the impacts on future land use and development in the Township.

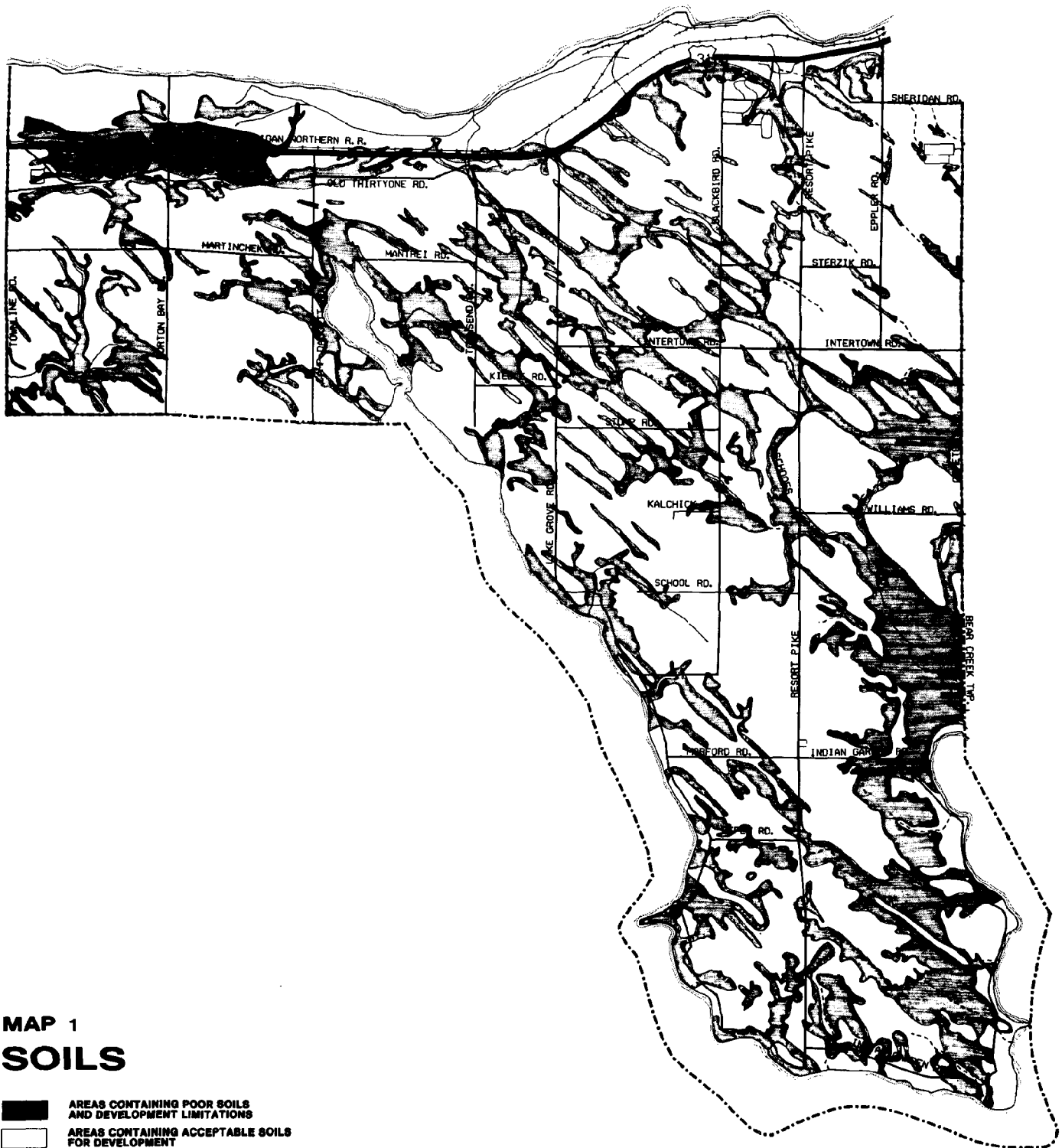
NATURAL RESOURCE INVENTORY AND CAPABILITY

The natural environment of Resort Township offers both opportunities and limitations on the type and extent of future development. Certain areas are unsuitable for septic systems, unstable for building foundations, poorly drained and susceptible to flooding. While these factors place restrictions upon development, other natural resource factors present opportunities for development. The historical, scenic and recreational attractiveness of the lakes, hills and woodlands offer a unique residential setting. It is helpful to examine these natural resource factors in detail to determine both the opportunities and constraints to future development. This examination involves an inventory of resource factors, and a determination of the capability of the natural resource base to support future development. Additional information concerning natural resources, water resources and management recommendations has been furnished by the Tip of the Mitt Watershed Council (see Appendix).

Soils

In order to minimize construction costs and risks to the environment it is desirable for future development to be constructed upon sites with suitable soils. Poor soils present problems such as poor foundation stability and septic field failure. The three major soil characteristics considered in the analysis of soil conditions are drainage, foundation stability and septic suitability characteristics. Each of these factors were mapped under one generalized category (see Map 1 - Soils) according to information provided by the Emmet County Soil Survey, prepared by the Soil Conservation Service.

The Soils map outlines general areas within the Township which would pose serious limitations to development. The areas include soils associated with a high seasonal water table, high organic content and severe limitations for siting septic fields.



MAP 1
SOILS

 AREAS CONTAINING POOR SOILS AND DEVELOPMENT LIMITATIONS
 AREAS CONTAINING ACCEPTABLE SOILS FOR DEVELOPMENT

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Outlined areas on the Soils map also include areas where slopes exceed 18% grade. Specific soil classifications are as follows:

- Au Gres Sand/Loamy Sand
- Carbondale Muck
- Charlevoix Sandy Loam
- Emmet Sandy Loams (greater than 18% slope)
- Ensley Sandy Loam
- Linwood Muck
- Roscommon Mucky Sand
- Tawa Muck
- Wheatley Loamy Sand

Drainage

Soil drainage characteristics are examined because of the potentially high development costs, maintenance costs and sanitary problems encountered on poorly drained soils. These costs and problems are often associated with septic field failures, flooded basements and susceptibility to frost action. Dense mucks, silts and clays with high water tables are the soils most often associated with drainage problems.

In general, poorly drained lands lie in close relationship to Walloon Lake and other lands associated with the numerous creeks, streams and/or depressions throughout the Township.

Foundation Stability

Shifting foundations, cracked walls and cracked pavement in roadways are some of the potential problems associated with foundation instability. These problems often result in increased development and maintenance costs or, in extreme cases, structural failure.

Generally, well drained, coarse-textured soils provide the most suitable foundations. Soils with good or fair stability are located in the scattered upland sections of the Township. Poor soil stability occurs with soils containing large concentrations of organic materials, such as muck, silt and clay. The areas of poor soil stability are concentrated in the low lying and poorly drained areas adjacent to Walloon Lake and numerous creeks. In those low lying areas the presence of water at or near the surface contributes to frost heave, compression, shrinking and swelling.

Septic Suitability

Because there is not a central wastewater collection system within Resort Township, individual septic systems are the primary means of wastewater disposal. Therefore, the location of septic systems on proper soils is extremely important.

Septic field failures are often the result of poor soil permeability, high water table or excessive slopes. Soils such as compacted clays and silts will not allow wastewater to percolate through the filtering layers of soils. Furthermore, a high water table prohibits adequate filtering, thereby allowing the sewage effluent to pollute the groundwater supplies and contaminate residential wells, lakes and streams. Finally, excessive slope does not provide adequate time for percolation. Instead, wastewater will drain to the low end of the septic field and the filtering action of the entire septic field will not be utilized.

Topography

The surface geology of the Township was formed 10,000 to 12,000 years ago when glacial activity deposited rock, soil and large blocks of ice. The ice blocks embedded within the soils eventually melted and left depressions which are today's lakes and interconnecting creeks.

Slope is an important development consideration associated with topographic features. Steep roadway grades, septic field failures, soil erosion and excavation costs are some of the difficulties associated with severe grades. Areas of extreme slope (18% and greater) have been mapped (see Map 2 - Slopes) to indicate the opportunities and constraints for potential development.

There are a few major areas of extreme slope in Resort Township. These are the areas surrounding portions of Walloon Lake, its neighboring creeks and immediately south of U.S. 31. The remainder of the Township is generally flat to rolling with isolated areas of severe or moderate slope.

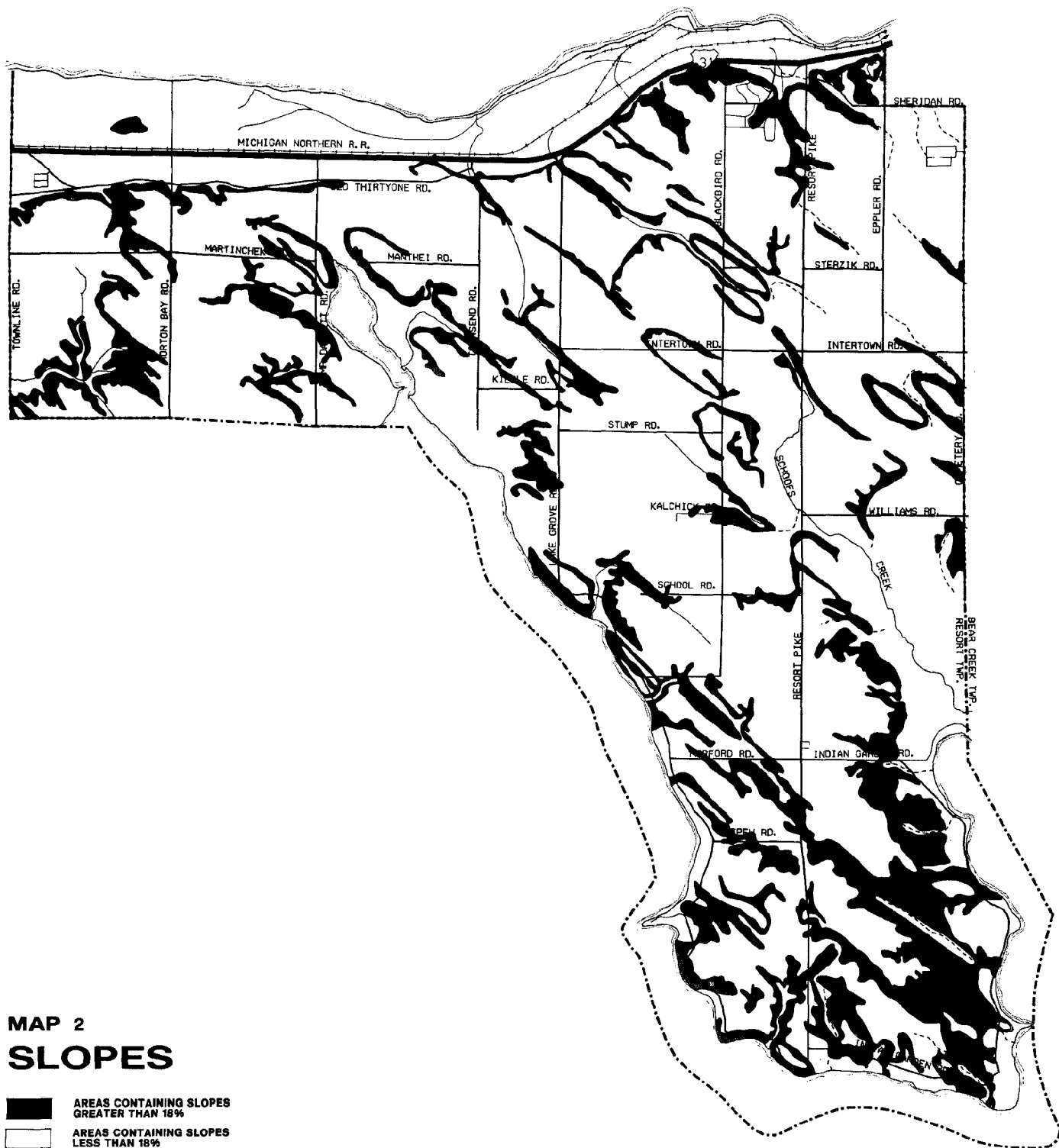
Areas that contain severe slopes and ravines should remain undisturbed. These areas should be viewed as natural and aesthetic open space areas. If development should occur, sensitive site planning would be required along these steep slopes to prevent soil erosion. Care must be taken to ensure that extensive grading is minimized and to ensure that other natural features such as vegetation and topsoil are retained.

Hydrology

Groundwater and surface water deposits are a vital resource within Resort Township. Because there is no central water distribution system, residents must rely upon individual wells for their water supply. The lakes and creeks of the Township are also an important resource for scenic, recreational and groundwater recharge amenities. It is therefore important that water resources be protected and managed in a manner which would ensure their quality.

Groundwater

Important factors in the evaluation of groundwater are the quantity and quality of the water. Quantity or yield standards for a typical residential or commercial use range from 7 to 20 gallons per minute. It appears the geologic and hydrologic features of the Township do provide its residents with sufficient water quantities and will not likely be a factor in limiting growth.



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Water quality is a more important factor than water availability. Water hardeners, iron content, salinity and septic field contamination are problems encountered in Resort Township. While hardness and salinity are minor problems, high iron content is common throughout the Township. A more important possible concern is septic field contamination of well water supply. Although the County Health Department record has no documented occurrences of contamination to date, residents should be aware that the potential exists.

Surface Water

One of Resort Township's greatest assets is the availability of fresh water resources, including nine miles of Walloon Lake frontage and six miles of Lake Michigan frontage. These lakes and their associated streams and creeks offer scenic and recreational amenities to Township residents and visitors. It is extremely important that the quality of these surface waters be protected from the negative impacts of development, such as pollution and loss of scenic views to open water. A report prepared by the Tip of the Mitt Watershed Council is presented in the appendix and offers additional information concerning the water resources found within Resort Township.

Water pollution is a major concern which jeopardizes the residential and recreational setting. Proper land management can improve the current water quality conditions of Resort Township. Sources of pollution can be controlled through drainage and runoff controls, septic field corrections, proper treatment of sanitary wastes, land use planning and zoning, limitation of fertilizer applications and action by the Walloon Lake Association and Township residents.

Associated with Walloon Lake and major creeks is a corridor of adjacent wetlands. The lakes, creeks and wetlands are important for surface drainage, groundwater recharge and wildlife habitat. Alterations to the water features can contribute to flooding, poor water quality, insufficient water supply and loss of valuable wildlife habitat.

Sensitive Environmental Features

In addition to soils, topography and hydrology, there are other natural resources which influence future land use and development. Sensitive environmental features such as woodlands, fish and wildlife habitat, wetlands and scenic features can present either constraints or opportunities for development.

Principal Wooded Areas

Approximately forty percent (40%) of the total land area of the Township is wooded and a majority of these areas are adjacent to the lakes, creeks and wetlands. Wooded areas primarily contain northern and lowland (water tolerant) hardwood species such as sugar maple, elm, beech, ash, cottonwood, birch and aspen.

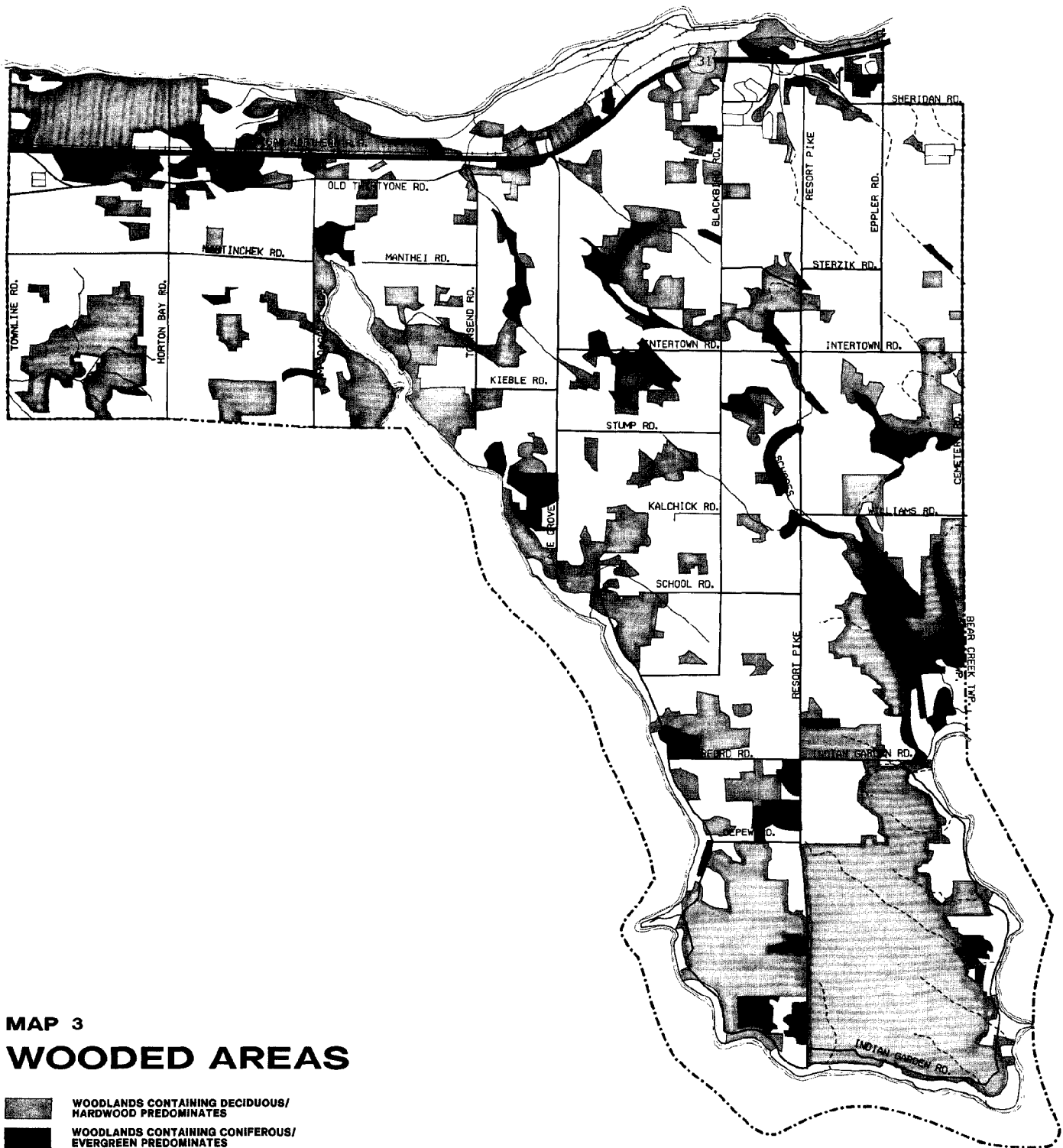
Where mature vegetation meets the waters edge, areas of unique scenic resources and wildlife habitat are found. Future development should be planned in a manner to protect these woodlands.

The number of large wooded areas provide a visual break and interest in the varying landscape. They also provide a visual contrast to agricultural and urban lands. These areas are located on the Principal Wooded Areas Map and are divided into deciduous and coniferous woodlands.

The map is based on information derived from the 1979 Michigan Resource Information System (MIRIS) map furnished by the Michigan Department of Natural Resources.

Fish and Wildlife

The continued existence of fish and wildlife depends upon the maintenance of adequate habitat. While some species can adapt to the pressures of urbanization, others cannot live in close proximity to humans. According to the Michigan



Department of Natural Resources, existing wildlife populations for Resort Township are stable and unless prime habitat and cover areas are destroyed, the populations are expected to remain stable.

Walloon Lake is especially good for fishing. Trout, pike, walleye, perch, bass and bluegill are the primary species. Wetlands adjacent to Walloon Lake are used as spawning for bass, trout and northern pike. Populations of songbirds, muskrat, mink and raccoon are also dependent upon these wetlands. Fox, squirrel, grouse, rabbit and deer are the predominant mammals.

Wetlands

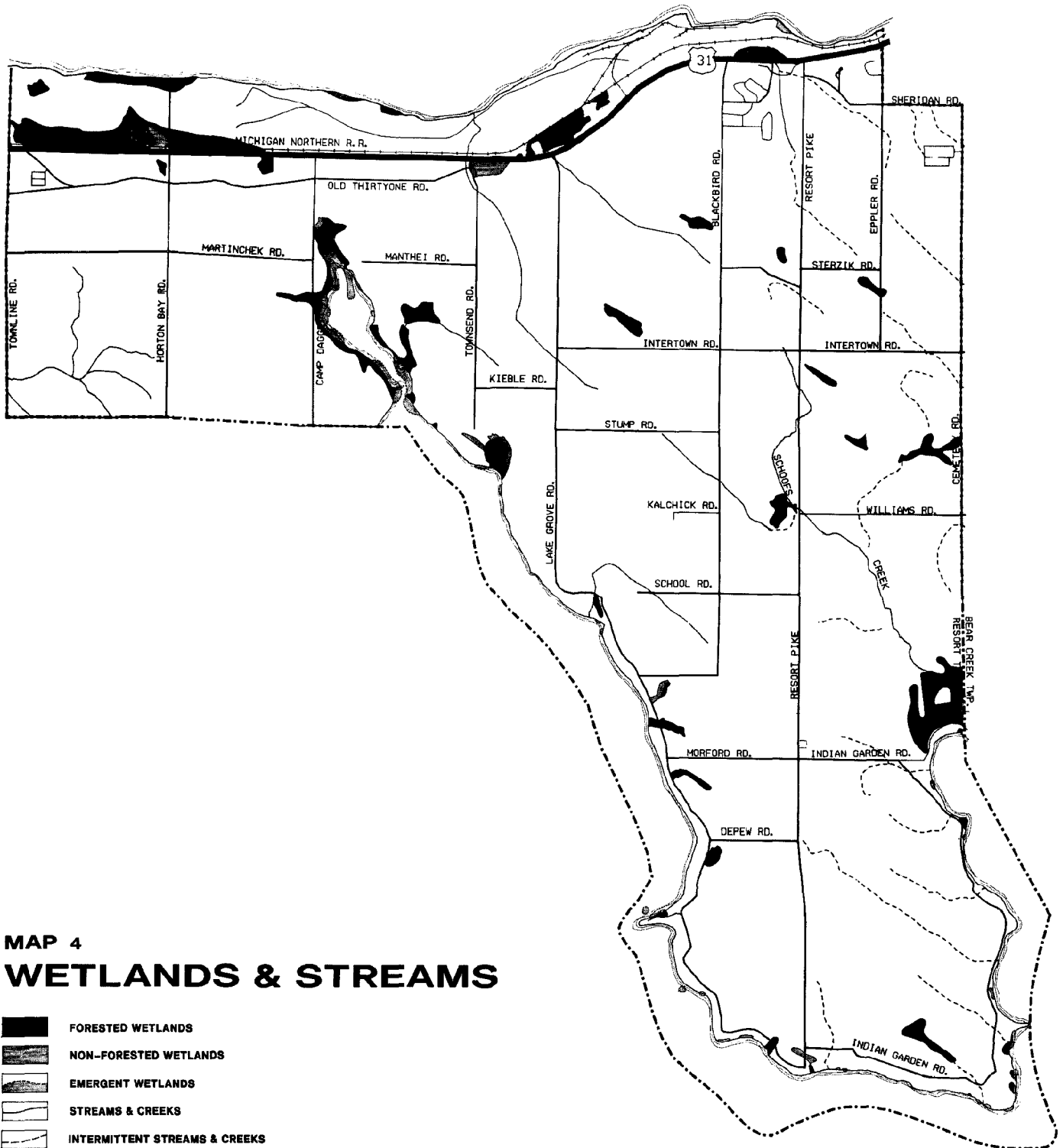
Wetlands play a very important part in hydrological and ecological systems. In addition to providing fish and wildlife habitat, wetlands also maintain and stabilize groundwater supplies, reduce the dangers of flooding and improve water quality.

The majority of forested and nonforested wetlands are located adjacent to Walloon Lake, Little Traverse Bay and the chain of creeks (see Map 4 - Wetlands and Streams). Other wetlands are found scattered within the numerous kettle depressions and upland areas throughout the Township.

The Wetlands inventory is based upon surveys conducted by the Tip of the Mitt Watershed Council which identified wetlands within 1000 feet of Little Traverse Bay and Walloon Lake shorelines and the 1979 Michigan Resource Information System (MIRIS) map provided by the Michigan Department of Natural Resources.

Scenic Features

The most picturesque scenic views in Resort Township are of Little Traverse Bay from U.S. 31 and its neighboring hill tops, and of Walloon Lake from along its shoreline. Protection of these lake views should be a major goal of Township decision makers.



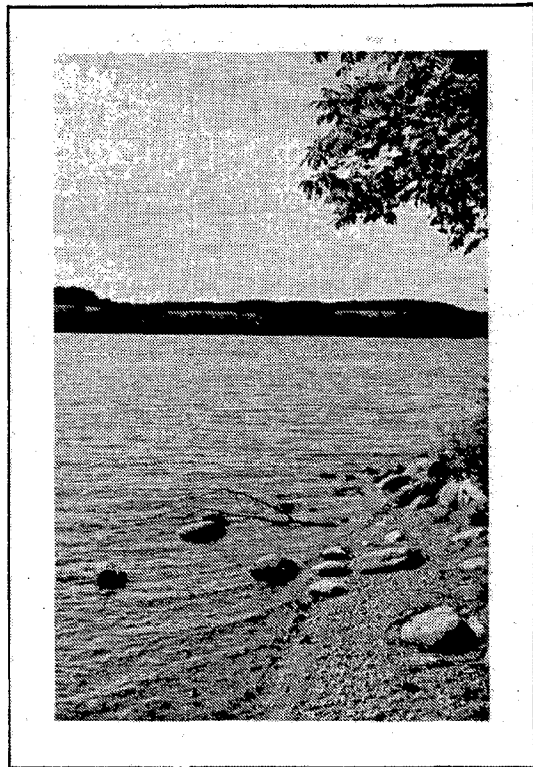
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Outstanding scenic views of Little Traverse Bay from U.S. 31 occur primarily between Eppler Road and Lake Grove Road. Any future development which would obstruct these views should be discouraged or regulated through height restrictions and land use regulations.

Views of Lake Michigan from existing and future residential sites should be maintained. The existing residential areas which have outstanding views of the Lake are primarily located along the hill tops paralleling U.S. 31. Consideration of future building heights along Sheridan Road, U.S. 31 and within the Bay Resort property will be discussed in later chapters.

The dynamic, year round views of Walloon Lake from along its shoreline is another important asset to Resort Township. Development which occurs within the Walloon Lake shoreline area may be visible to many other property owners along the Lake's edge. Just as consideration is given to the impact of development on water quality, the impact of development on visual quality should be recognized.

In addition to Lake Michigan and Walloon Lake, wooded areas, farmlands, streams and creeks, rolling topography and historical structures are all important scenic attributes found within Resort Township. Extensive panoramic views encompassing these features help create the pleasant rural and scenic character appreciated by residents and visitors alike.



Development Capability

The development capability of lands within Resort Township is illustrated in Map 5. This map is a composite of the following natural resource characteristics: soils which pose serious limitations to development, slopes greater than 18%, and areas characterized as wetlands and streams. The Land Capability Map offers a generalized indication of which areas within the Township are most capable and least capable of supporting development based on the above mentioned natural resource characteristics. The Land Capability Map is useful for general planning purposes; however, detailed site-specific inventory and analysis information should be required for any proposed development plans.

EXISTING LAND USE

An inventory of existing land use was conducted in March, 1988 for Resort Township. All lands within the Township were inventoried, classified into the following categories and mapped (see Map 5 - Existing Land Use). A description of the categories follows:

Agricultural and Vacant

Includes lands devoted to agriculture, farm residential or which are vacant.

Single Family Residential - Low Density

Includes all lands where single family residences are located at a density of one dwelling unit per one or more acres.

Single Family Residential - Medium Density

Includes all lands where single family residences are located at a density of one dwelling unit per one quarter to one acre.

Seasonal Residential

Includes all lands where seasonal, single family residences are located.

Multiple Family Residential

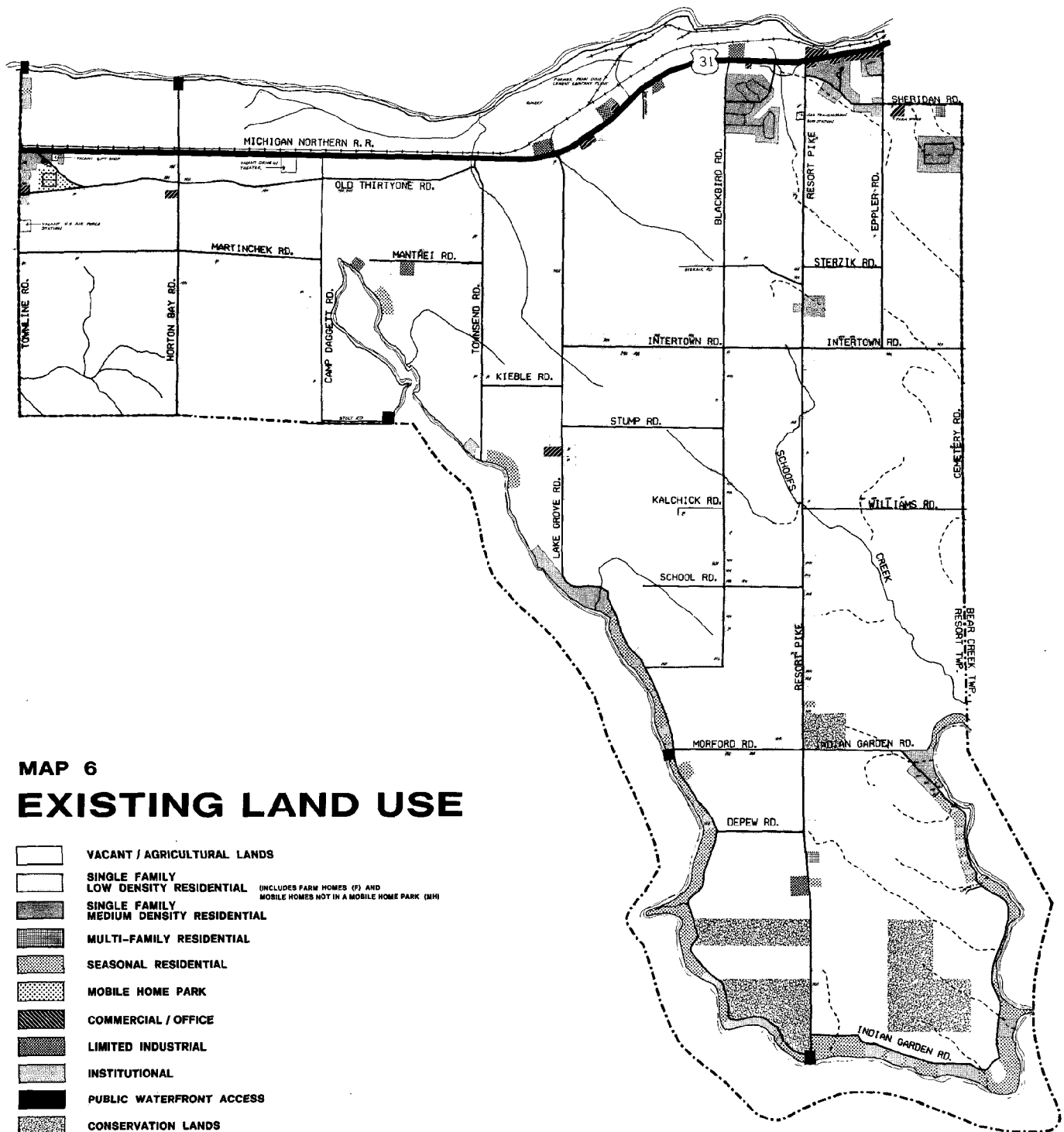
Includes all lands where two or more family residences are located.

Mobile Home Park













Includes all lands where mobile homes are located in a cluster development.

Commercial

Includes all lands and buildings where products, goods or services are sold.



MAP 6 EXISTING LAND USE

-  VACANT / AGRICULTURAL LANDS
-  SINGLE FAMILY LOW DENSITY RESIDENTIAL (INCLUDES FARM HOMES (F) AND MOBILE HOMES NOT IN A MOBILE HOME PARK (MH))
-  SINGLE FAMILY MEDIUM DENSITY RESIDENTIAL
-  MULTI-FAMILY RESIDENTIAL
-  SEASONAL RESIDENTIAL
-  MOBILE HOME PARK
-  COMMERCIAL / OFFICE
-  LIMITED INDUSTRIAL
-  INSTITUTIONAL
-  PUBLIC WATERFRONT ACCESS
-  CONSERVATION LANDS
-  OTHER USES

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Industrial

Includes all lands devoted to manufacturing, processing, warehousing, storage and services of an industrial nature.

Institutional

Includes all lands and buildings used for government facilities, schools, churches, cemeteries, quasi public and private institutions.

Parklands and Waterfront Access

Includes all lands developed for active and/or passive recreational uses. Such as picnicking, boat launching and sports.

Conservation

Includes all lands preserved in their natural state. Limited recreational activities such as hiking and bird watching may be allowed in these areas.

Roads

Includes all state highways, primary and local streets.

Active Railroad

Includes railroad tracks and right-of-ways allocated for active railroad use.

Lakes

Includes all lake surfaces and shorelines within the Township.

In addition to the existing land use information, data on the 1968 land use acreage is presented in the following table (Table 11). In comparing the existing land use acreage with the 1968 data provided by the Emmet County Office of Planning and Zoning, agricultural and vacant lands continue to be the single largest land use within the Township. Total vacant and agricultural lands have decreased by approximately 345 acres over the last twenty years.

Table 11
Resort Township
Land Use Acreages for 1988 and 1968

	1988 Acres	% of Total	1968 Acres	% of Total
Agricultural/Vacant (includes farm residential)	12,084	80.87	12,372	82.81
Single Family Residential Low Density	297	1.99	142	0.95
Single Family Residential Medium Density	99	0.66	*	
Seasonal Residential	183	1.22	66	0.44
Multiple Family Residential	3	0.02	*	
Mobile Home Park	13	0.09	*	
Commercial	20	0.11	19	0.13
Industrial	25	0.17	150	1.0
Institutional	12	0.08	22	0.15
Recreation				
Conservation Lands	110	0.75	*	
Waterfront Public Access/Parklands	3	0.02	14	0.09
Roads	510	3.41	504	3.37
Active Railroad	0	0	70	0.47
Lakes	1,582	10.59	1,582	10.59
Total	14,941	100.00	14,941	100.00

* Information unavailable or zero acres for land use recorded.

Source: Emmet County and ALNM Inventory 1988

An inventory of existing, actively farmed lands in Resort Township was compiled in August, 1988. These farmlands are illustrated in Map 7.

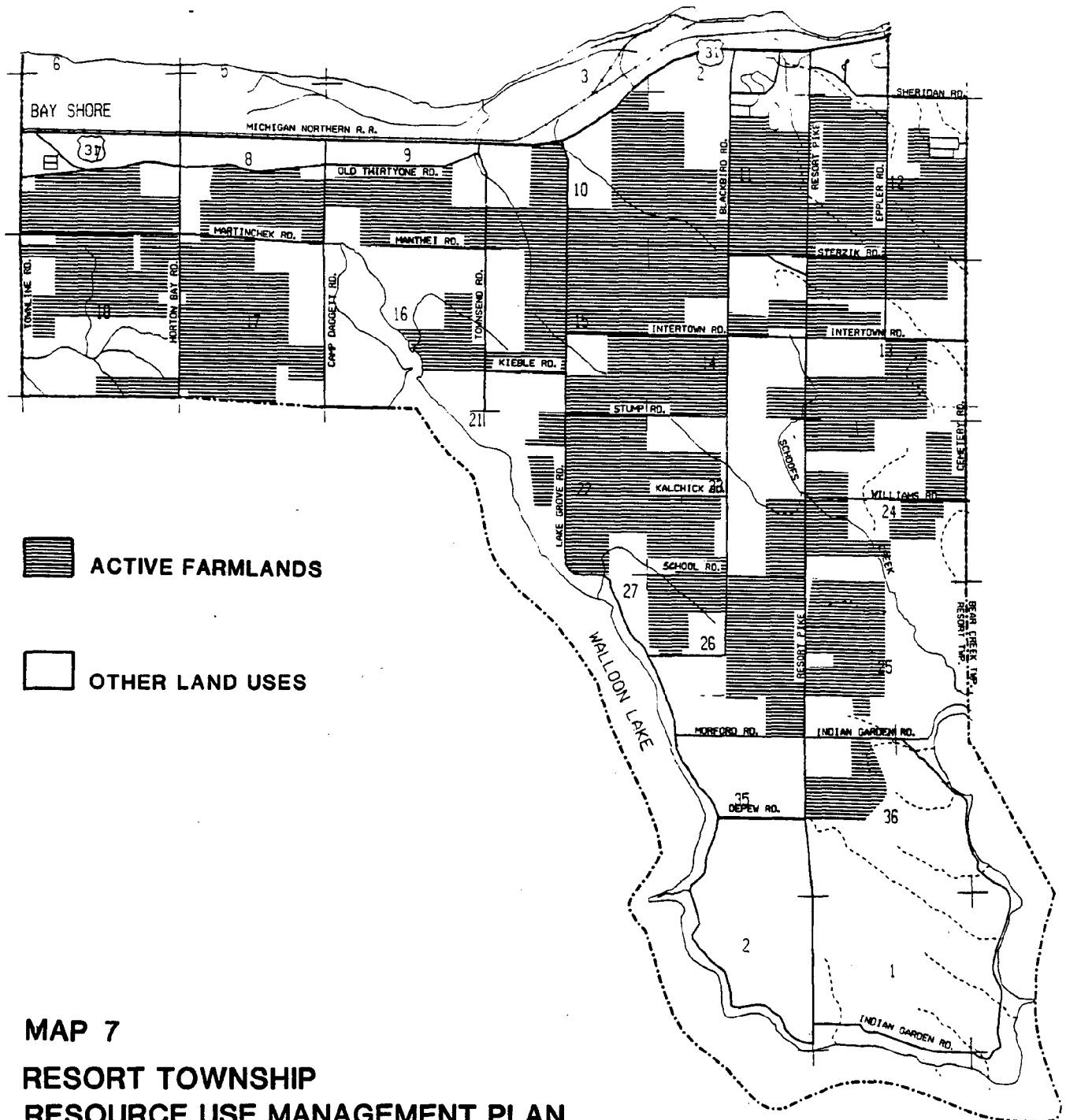
Industrial and institutional land uses have also declined over the past two decades. A major loss of industrial land use occurred as a result of the Penn Dixie Cement Company closing. Institutional acreage decreased between 1968 and 1988 in response to the sale of Township land.

In contrast, the amount of land devoted to single family residential, seasonal residential around Walloon Lake and mobile home park development has risen substantially.

The amount of land set aside for conservation use in the Township has increased since 1968. The Covert property, the Black property, the Reycraft property and the two properties owned by the Walloon Lake Trust are quasi-public lands preserved for wildlife habitat, forest management and/or low-impact recreational uses.

Although conservation land has increased, the amount of parkland has decreased in Resort Township. As indicated by the 1968 data, a strip of land east of Resort Pike on U.S. 31 is privately owned but was once used as a public roadside park. The park facilities have been removed and there is a residence located on the privately owned parcel.

Since 1968, the land use trends in the Township have been toward residential development while vacant and agricultural lands have decreased.



MAP 7
RESORT TOWNSHIP
RESOURCE USE MANAGEMENT PLAN
ACTIVE FARMLANDS, 1988

Source: Emmet County Office Of Planning and Zoning



HOUSING

A review of existing housing characteristics within the Township will be beneficial to predicting future housing needs.

An estimate of existing housing types and numbers was prepared from field inventory data obtained in March, 1988. This information is presented in Table 12.

A summary of housing characteristics follows:

1. A variety of housing types are found in Resort Township. Single-family residential low density is the most common (32%), followed by medium density single-family (24%) and seasonal residential (22%).
 2. Multiple family residential consists of 20 housing units or 3% of the total number of housing units.
 3. Mobile homes located in the mobile home park (88 units) and throughout the Township (56 units) account for 17% of housing units in Resort Township.
 4. Farm homes (27 units) represent 3% of the total housing in the Township. This housing type is important because it is associated with the dominant land uses in Resort Township, that being agriculture and vacant land use.
 5. There are four multiple family complexes in Resort Township. One is located off of Resort Pike Road in the southern portion of the Township. Another is situated off Sheridan Road near the eastern Township boundary. The other two multiple family structures front on U.S. 31 east of Resort Pike Road.
-

Table 12
Resort Township
Number of Housing Units, 1988

Type	Number of Housing Units	Percent of Total
Single Family/Low Density	269	32%
Single Family/Medium Density	198	24
Seasonal	183	22
Multiple Family	20	2
Mobile Homes in a Mobile Home Park	88	10
Mobile Homes not in a Mobile Home Park	56	7
Farm Homes	27	3
Total	841	100.0

Source: Emmet County Inventory and ALNM

6. Seasonal residential housing units are located primarily near Walloon Lake.

The State-wide trend of fewer persons per household is also occurring in Resort Township. Table 13 illustrates the drop in the number of persons per household at the State level, for Emmet County and Resort Township since 1960. Resort Township, however, has consistently had a slightly higher average household size than the County or State. Possibly the low number of multiple family housing units is, in part, responsible for this trend.

Table 13
Emmet County and Resort Township
Average Household Size

	1980	1970	1960
Resort Township	2.99	3.47	*
Emmet County	2.76	3.25	3.33
State of Michigan	2.84	3.27	3.42

* Information unavailable

Source: U.S. Bureau of Census

OWNERSHIP

A study of land ownership plays an important role in determining which properties have a strong potential for future development. A comparison of lot size to the number of land owners in Resort Township was conducted using the 1985 Township Plat Map. Table 14 shows an estimate of the number of land owners per acreage size category. Map 8 illustrates the distribution of acreage size categories within Resort Township.

Dundee Cement Company is the major land owner in the Township. Dundee owns approximately 1,050 acres of land between U.S. 31 and Little Traverse Bay. Roughly 25 landowners maintain properties greater than 100 acres while 72 persons own 40 to 100 acres. A large number of land owners, approximately 204, own 2 to 40 acres.

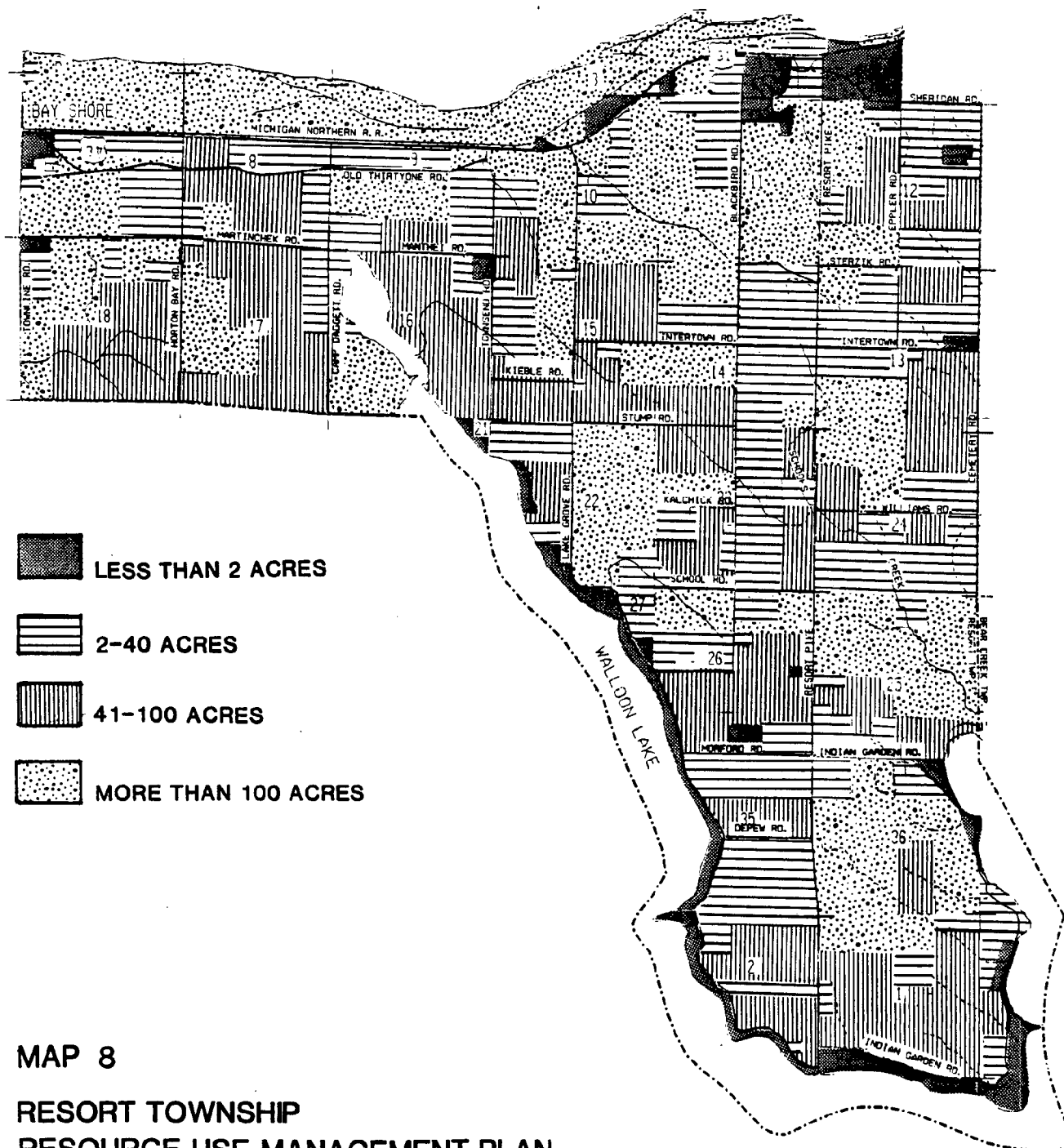
An estimated 380 persons own property less than two acres. This estimate was obtained by subtracting the number of landowners maintaining properties greater than two acres from the total number of housing units under the single family, seasonal and farm homes categories.

Table 14
Resort Township
Land Ownership, 1988

Acreage Size	Number of Owners
less than 2 acres	380
2 - 40 acres	204
41 - 100 acres	72
more than 100 acres	25

Note: The "number of land owners" represents an approximation of land owners per a given acreage size category.

Source: 1985 Emmet County Plat Book



Ayres, Lewis, Norris & May, Inc.
 Engineers Planners



ANALYSIS OF CURRENT ZONING ORDINANCE

The Zoning Ordinance for Resort Township is an important tool for implementing the Resource Use Management Plan. The ordinance should be reviewed to determine the compatibility with the Resource Use Management Plan. An analysis of the existing zoning districts will also influence recommendations for future land use. The zoning districts within Resort Township are illustrated in Map 9 and a brief summary of the districts is presented in Table 15.

Most of the Township land is zoned FF-1, Farm and Forest. This area is designed to promote the use of wooded and rural areas of the Township in a manner that will retain the basic attractiveness of the natural resources. The intent is to hold areas for agricultural and forestry uses while allowing some multiple uses of marginal farm/forest lands. Within this zoning district in Resort Township, single family-low density and mobile home dwelling units are found. However, the overall character of the land is agricultural and forestry.

Another large zoning district in Resort Township is R1-B, One Family Residential. This district is primarily located within the northeast corner of the Township and includes several medium density residential subdivisions. The close proximity of this zoning district to the City of Petoskey creates additional opportunities for residential development.

The lands adjacent to Walloon Lake are zoned RR-2, Recreation/Residential. These areas are designed to accommodate cottage and seasonal home developments. Several small narrow areas are zoned B-2, General Business, and B-1, Local Tourist Business, along U.S. 31 and old U.S. 31. A limited amount of land is zoned I-1, Light Industrial along the north side of U.S. 31 between Black Bird Road and Resort Pike Road.

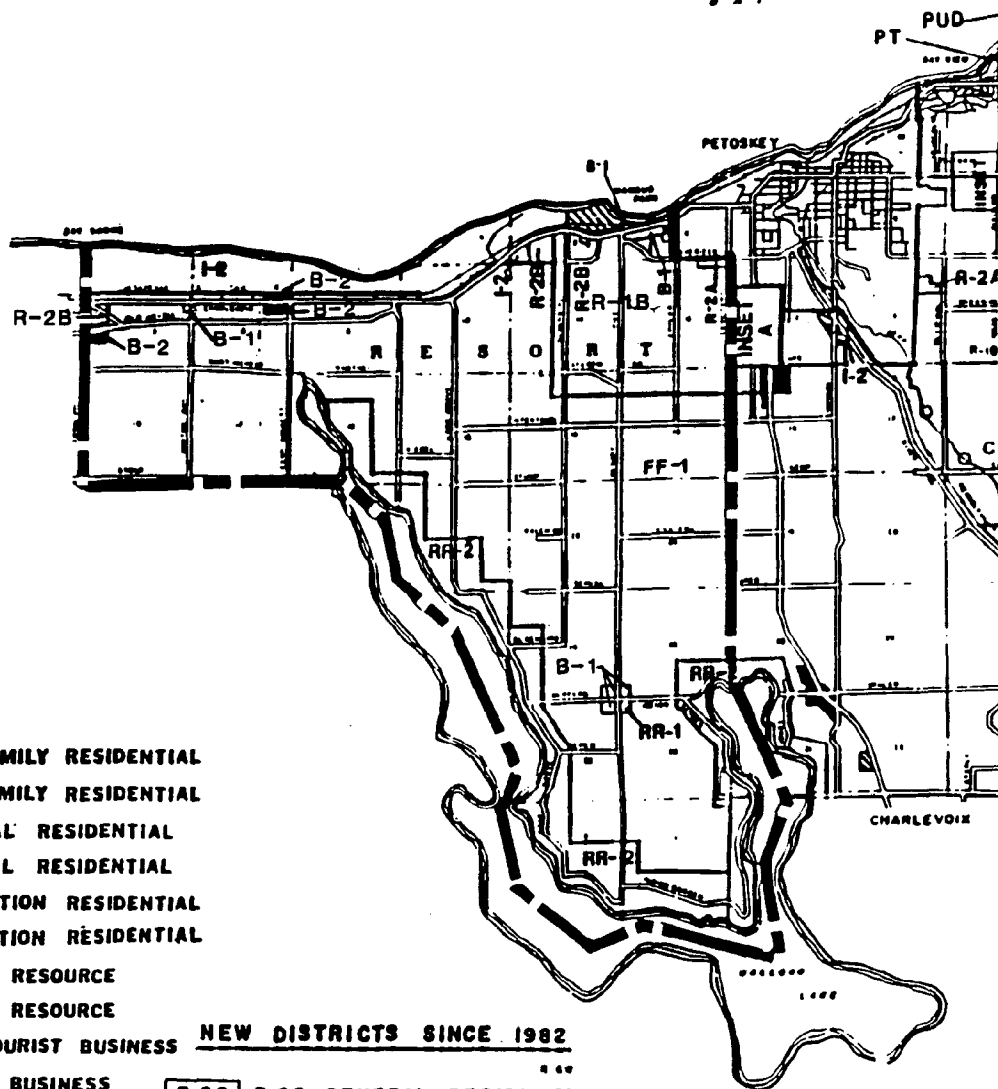
The Bay Resort property located between Little Traverse Bay and U.S. 31 is zoned I-2, General Industrial. A planned unit development overlay zoning district, allowable by a special use permit, has been proposed for this property.

LITTLE TRAVERSE

BAY

PT PUD

PETOSKEY



	R-1A ONE-FAMILY RESIDENTIAL
	R-1B ONE-FAMILY RESIDENTIAL
	R-2A GENERAL RESIDENTIAL
	R-2B GENERAL RESIDENTIAL
	RR-1 RECREATION RESIDENTIAL
	RR-2 RECREATION RESIDENTIAL
	SR-1 SCENIC RESOURCE
	SR-2 SCENIC RESOURCE
	B-1 LOCAL-TOURIST BUSINESS
	B-2 GENERAL BUSINESS
	I-1 LIGHT INDUSTRIAL
	I-2 GENERAL INDUSTRIAL
	FF-1 FARM & FOREST
	FF-2 FARM & FOREST

NEW DISTRICTS SINCE 1982

	R-2C GENERAL RESIDENTIAL
	B-3 COMMERCIAL-INDUSTRIAL
	P-T PARKING TRANSITION
	PUD PLANNED UNIT DEVELOPMENT

MAP 9

**RESORT TOWNSHIP
RESOURCE USE MANAGEMENT PLAN
ZONING DISTRICTS**

Source: Emmet County Office Of Planning and Zoning



Table 15
Resort Township
Existing Zoning Districts

Zoning Districts		Approximate Land Acreage
R-1A	One-Family Residential	--
R-1B	One-Family Residential	1280 acres
R-2A	General Residential	28 acres
R-2B	General Residential	100 acres
RR-1	Recreation Residential	11 acres
RR-2	Recreation Residential	2200 acres
SR-1	Scenic Resource	--
SR-2	Scenic Resource	--
B-1	Local-Tourist Business	89 acres
B-2	General Business	120 acres
I-1	Light Industrial	100 acres
I-2	General Industrial	1100 acres
FF-1	Farm & Forest	8451 acres
FF-2	Farm & Forest	--
R-2C	General Residential	--
B-3	Commercial-Industrial	--
P-T	Parking Transition	--
PUD	Planned Unit Development	--

The predominance of agricultural, recreational and forest zoning districts in the Township emphasizes the interest on the Township and County level in preserving the rural character. The question remains of how effective these districts will be in managing future growth and the conversion of open space to residential and other uses. Specific recommendations on improving land use regulations and zoning will be included in later chapters.

CITIZEN QUESTIONNAIRE

Prior to the development of the Resource Management Plan and other components of the Management Plan, it is necessary to incorporate summary findings concerning citizen attitudes. A major component of the overall planning process was to solicit citizen input regarding the attitudes of the Resort Township residents regarding future development. Issues such as the developing character of the US-31 corridor, the types of development along waterfront property, and the density of future development are all critical issues which must be addressed in this Plan. The Planning Committee and Township officials feel that it is important to solicit citizen attitudes regarding these important issues.

To ascertain this information, a questionnaire survey was prepared and distributed to each household within the Township. A total of 1045 questionnaires were distributed in March 1988. Three hundred and one (301) residents responded to this questionnaire for a response rate of 29 percent. A copy of the questionnaire is attached within the appendix of this report. A summary of the results is as follows:

PART A - COMMENTS

I. General Comments:

Residents were asked to submit comments regarding the character of Resort Township, their likes and dislikes, and problems facing the Township. A summary of selected comments follows. A more detailed listing is attached in the appendix of this report.

- Keep a high quality of life in Resort Township. The rural atmosphere is the best attraction.
 - Encourage light industrial and resort development in the right places.
 - Taxes are too high - too few services.
-

- The US-31 bypass will relieve traffic congestion.
- The US-31 bypass will destroy farmland.
- The Dundee Resort complex will bring many problems.
- In favor of Dundee Resort but keep Township rural.

PART B - BACKGROUND DATA

2. Number of years as a Resort Township resident?

The average length of residence of the respondents is 17.9 years.

3. Age

Respondents were fairly well distributed between all age groups. A slightly higher response rate was measured for citizens 62 years and over. The various age groups and corresponding percentage of all residents responding are as follows:

<u>Years of Age</u>	<u>%</u>
18 - 25	1.4
26 - 35	13.5
36 - 45	23.0
46 - 55	16.9
56 - 61	15.5
62 and over	29.0
no response	0.7
	<u>100.0 %</u>

4. Are you a year-round or seasonal resident?

The majority of respondents, 85.4 percent are year-round residents. Only 14.6 percent of the respondents indicate that they are seasonal residents.

5. Do you own waterfront property?

Approximately 28.3 percent of the respondents indicated that they owned waterfront property, while 71 percent of the total respondents indicated that they did not own waterfront property.

6. **How much property do you own?**

The majority of the respondents indicated that they own one or more acres of land. A specific breakdown of land acreage and ownership is as follows:

<u>Acres Owned</u>	<u>% of Respondents</u>
0 acre	3.0
1 acre	48.3
2-10 acres	26.3
3 acres	0.3
4 acres	0.3
5 acres	0.3
11-40 acres	12.3
41+ acres	9.0

PART C - HOUSING AND LAND USE PREFERENCE

Residents were asked if they agree or disagree with the following statements:

7. **The Township should promote efforts to retain farming and the rural character of the area.**

The majority of the respondents indicated that they felt the Township should promote efforts to retain farming and the rural character. The following responses were recorded:

No response	1.0%
Strongly disagree	3.6%
Somewhat disagree	8.0%
No opinion	7.0%
Somewhat agree	22.6%
Strongly agree	57.8%

8. Large lots (1-2 acres) per individual non-waterfront home sites should be encouraged.

A majority of residents believe that large lots and low density housing should be encouraged.

No response	1.0%
Strongly disagree	7.3%
Somewhat disagree	6.0%
No opinion	5.0%
Somewhat agree	28.9%
Strongly agree	51.8%

9. Development of single-family subdivisions in appropriate locations should be encouraged.

The results of this question were somewhat mixed. The results are as follows:

No response	0.7%
Strongly disagree	20.9%
Somewhat disagree	13.3%
No opinion	8.3%
Somewhat agree	27.9%
Strongly agree	28.9%

10. Development of apartment/townhouse/condominium complexes in appropriate locations should be encouraged.

The majority of respondents strongly disagree with this statement and would indicate that high-density housing is not a preferred land use. Specific responses are as follows:

No response	0.7%
Strongly disagree	46.8%
Somewhat disagree	18.9%
No opinion	5.0%
Somewhat agree	17.3%
Strongly agree	11.3%

11. Development of senior citizen housing should be encouraged.

The results to this statement were somewhat mixed. Specific responses are as follows:

No response	1.3%
Strongly disagree	17.3%
Somewhat disagree	14.6%
No opinion	16.0%
Somewhat agree	25.9%
Strongly agree	24.9%

12. The Township should promote efforts to retain the scenic and rural character of US-31.

A significant majority of respondents strongly agreed with this statement. Specific results are as follows:

No response	1.0%
Strongly disagree	7.0%
Somewhat disagree	6.6%
No opinion	5.0%
Somewhat agree	17.6%
Strongly agree	62.8%

PART D - COMMERCIAL AND INDUSTRIAL PREFERENCE

Residents were asked if they agree or disagree with the following statements:

13. The US-31 corridor should be primarily developed for residential use.

Most of the respondents agreed with this statement. However, overall response was somewhat mixed. The specific responses are as follows:

No response	2.7%
Strongly disagree	12.6%
Somewhat disagree	20.9%
No opinion	8.0%
Somewhat agree	27.2%
Strongly agree	28.6%

14. Some industrial development should be allowed along US-31.

Response to this statement was varied. Specific results are as follows:

No response	1.3%
Strongly disagree	27.0%
Somewhat disagree	17.6%
No opinion	5.3%
Somewhat agree	33.2%
Strongly agree	15.6%

15. Some commercial development along US-31 should be allowed.

The responses to this question included a wide range of results. Responses are tabulated as follows:

No response	-
Strongly disagree	32.6%
Somewhat disagree	14.6%
No opinion	4.3%
Somewhat agree	31.2%
Strongly agree	16.3%

16. Development of convenience shopping facilities should be encouraged where appropriate.

Most of the respondents agreed with this statement. Specific results are as follows:

No response	1.3%
Strongly disagree	22.6%
Somewhat disagree	14.9%
No opinion	7.0%
Somewhat agree	34.9%
Strongly agree	19.3%

17. Resort Township should promote efforts to attract new industry.

Again, the response to this statement was somewhat mixed. Specific results are as follows:

No response	1.3%
Strongly disagree	25.9%
Somewhat disagree	12.3%
No opinion	8.6%
Somewhat agree	24.9%
Strongly agree	27.0%

18. The Township should promote efforts to construct an industrial park.

Response to this statement varied with a slight majority indicating that they are not in favor of the Township promoting an industrial park. Specific results are as follows:

No response	0.7%
Strongly disagree	31.9%
Somewhat disagree	12.3%
No opinion	12.6%
Somewhat agree	19.9%
Strongly agree	22.6%

PART E - ATTITUDES ON ROADS AND PARKS

Residents were asked if they agree or disagree with the following statements.

19. Main roads within the Township are adequate and capable of handling existing traffic.

Most of the respondents agreed with this statement. Results are as follows:

No response	1.0%
Strongly disagree	10.0%
Somewhat disagree	12.6%
No opinion	2.3%
Somewhat agree	31.2%
Strongly agree	42.9%

20. The main roads within Resort Township will support future traffic demands.

Most of the respondents indicated that they are concerned about the main roads within the Township and their capability of handling future traffic loads. Specific results are as follows:

No response	1.0%
Strongly disagree	28.6%
Somewhat disagree	25.2%
No opinion	10.6%
Somewhat agree	16.3%
Strongly agree	18.3%

21. The Township should promote efforts to provide waterfront parks.

A significant majority of the respondents indicated support for this concept. Other responses are as follows:

No response	-
Strongly disagree	10.0%
Somewhat disagree	6.4%
No opinion	7.0%
Somewhat agree	21.7%
Strongly agree	54.2%

* * *

From the results of this survey, it would indicate that a majority of the respondents would be in favor of carefully managing growth and development within the Township. Residents are concerned about the change in character of the Township. They are also not in favor of promoting efforts for an industrial park, nor are they in favor of extensive commercial development. A majority of the respondents also indicated that they would not be in favor of higher density housing types such as apartments, condominiums, or townhouses. In summary, it appears that the respondents are in favor of retaining the rural character of the Township.

The results of this survey will be helpful in determining the future land use plan and management plan for the Township of Resort. In addition, the adopted goals and policies which will help govern future development within the community will also be based upon the results of this survey.

CONCLUSIONS FROM BACKGROUND STUDIES

The following conclusions are derived from the research and studies conducted on the physical and socio-economic characteristics of Resort Township. Certain conclusions concerning the opportunities and constraints for future development within the Township can be identified. They are listed as follows:

Constraints

1. Resort Township contains many areas where the topography and soil characteristics are unsuitable for intensive development (see Soils and Slope maps). Areas of steep slope, areas of high water table and unstable soil conditions for foundations and drainfields will present constraints to development.
 2. Resort Township contains many areas of significant wetlands. The wetland areas will present limitations for future development and are important resources which should be preserved.
 3. The U.S. 31 corridor has areas of extreme limitations for future development. Areas of steep slope, wetlands and unsuitable soils will present limitations for future commercial, residential or industrial development.
 4. The Township lacks a certain image or identity within its geographic boundaries. Resort Township's U.S. 31 corridor must establish its own identity and promote a "Township Center" concept.
 5. Nearly all of Lake Michigan frontage in Resort Township is privately owned. The lack of publicly owned shoreline frontage currently limits waterfront access and recreation opportunities for Township residents and visitors. Future resort development within the Dundee Cement Company
-

property may offer opportunities for public enjoyment of Lake Michigan frontage.

6. Walloon Lake and its associated watershed are fragile environments which are sensitive to many human activities such as the development of septic fields within the watershed area. Future development within the watershed will require careful controls and inspection.

Opportunities

7. Resort Township's population base will continue to increase and will significantly increase if the Bay Resort property is developed.
 8. Growth of the City of Petoskey and the opportunities associated with the U.S. 31 corridor will be important in shaping the Township's future.
 9. The U.S. 31 corridor is receiving significant pressures for development and will continue to do so especially if the Bay Resort property is developed. The south side of U.S. 31 will be especially impacted. Development should occur in pocket areas where there are no natural resource limitations.
 10. The scenic views of Lake Michigan and Walloon Lake will continue to be a tremendous asset and resource for the Township. These areas will be especially important for future residential development. Views to the lakes should be protected.
 11. Land west of the City of Petoskey will continue to receive development pressure and is likely to be one of the fastest growing residential areas in the Township.
 12. The current level of development along U.S. 31 creates an opportunity to establish a positive image for the corridor. This may be accomplished through zoning guidelines and site design treatments.
-

13. The abandoned railroad right of way located within the Bay Resort property offers excellent opportunities for recreational activities. Ownership of the right of way, however, will be determined by the Courts once the tracks are removed by the Michigan Department of Transportation.

III

Analysis Of

Sub-Planning Zones—

ANALYSIS OF SUB-PLANNING ZONES

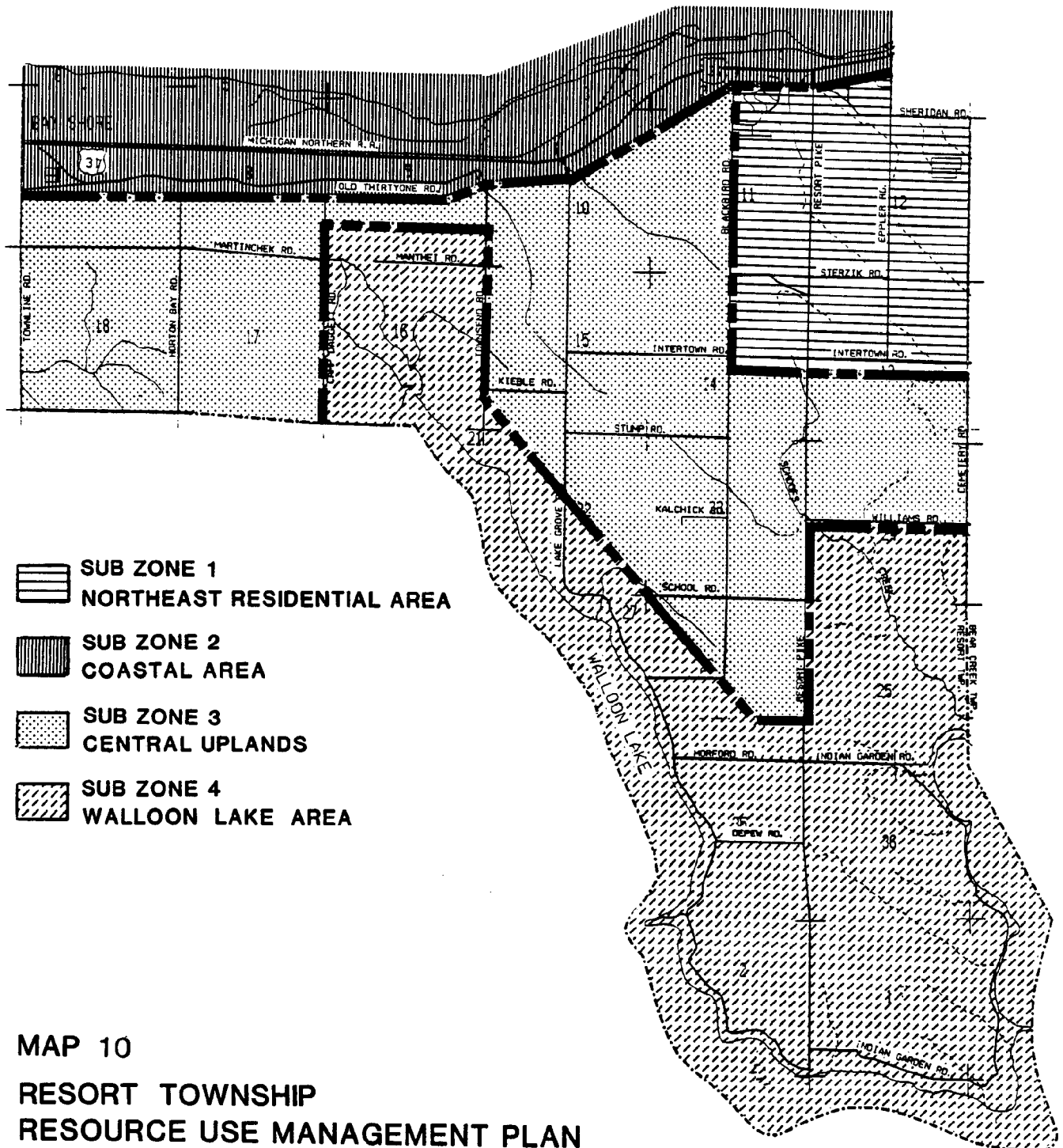
The previous section presents information on the base studies of Resort Township, including information on population, economic characteristics, natural resources and land use. With this information the Township can now proceed on a more detailed analysis of the specific characteristics of Resort Township.

To help accomplish this goal, the Township can be divided into four sub-planning zones. The four areas are based upon natural resource characteristics of the Township as well as land use and transportation. The four sub-planning zones are listed as follows: (1) Northeast Residential Area, (2) Coastal Area, (3) Central Uplands and (4) Walloon Lake Area.

A map (Map 10) illustrating these four sub-zones is presented on the following page. Each area can be characterized by unique land use and natural resource conditions. For example, the Northeast Residential Area is primarily single family residential land in close proximity to the City of Petoskey. The Coastal Area is strongly influenced by a major transportation corridor. The Central Uplands includes many low density rural and agricultural areas of the Township. Finally, the Walloon Lake Area includes those lands in close proximity to Walloon Lake which are characterized by seasonal and year-round waterfront residential properties.

Preliminary assessment regarding existing land use, natural resources, development capability and other planning issues can be made for each sub-planning area. These are presented in Table 16, Sub-Planning Zone Analysis, as well as a summary of resource characteristics, development capability and planning issues.

Table 17, Alternative Strategies, presents a summary of alternative land uses and management strategies for each sub-planning zone.



Ayres, Lewis, Norris and May, Inc.
Engineers Planners



RESORT TOWNSHIP SUB-PLANNING ZONES - ANALYSIS Table 16



SUB ZONE 1 NORTHEAST RESIDENTIAL AREA

Existing Land Use and Natural Resource Conditions

Existing land use - medium density, single and multi-family residential and agricultural/vacant land

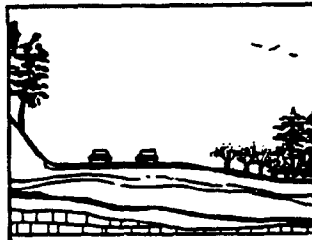
- Good soils available for septic fields and building foundations
- Upland, non-forested topography offer opportunities for good views to Little Traverse Bay
- Close proximity to City of Petoskey

Development Capability

The upland areas are capable of supporting additional development. Steep slopes and drainage ways, however, may limit development.

Planning Issues

- Loss of farmland and rural character concerns
- Increased demand on existing institutional services if development occurs
- Increased need for commercial services if development occurs
- Development may lead to traffic congestion along U.S. 31, the county roads, and at existing intersections
- Encroachment from the City of Petoskey



SUB ZONE 2 COASTAL AREA

Existing Land Use and Natural Resource Characteristics

Existing land use - mix of commercial, residential, conservation and light industrial use along U.S. 31. Bay Resort complex is in a transitional stage from extractive/industrial to residential/recreation/commercial.

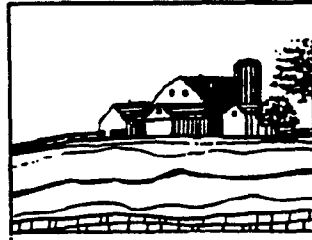
- Rural corridor connecting Charlevoix, MI and Petoskey, MI.
- Zone characterized by intermittent steep slopes along south side of U.S. 31, poor soils and wetland areas
- Good views to Little Traverse Bay

Development Capability

There are several pocket areas with good soils and flat topography along U.S. 31 which are capable of supporting additional development.

Planning Issues

- Future development of major resort complex
- Potential loss of rural character
- Concerns related to future development
- Proliferation of strip commercial development
- Impact on traffic congestion and safety along U.S. 31
- Impact on existing institutional services (police, fire protection, utilities, etc.)
- Loss of existing scenic views to Lake Michigan
- Lack of Township identity



SUB ZONE 3 CENTRAL UPLANDS

Existing Land Use and Natural Resource Conditions

Existing land use - primarily agricultural/vacant land and low density residential. The Resort Township Hall is located in this zone.

- Primarily upland/open and rural in character with occasional woodlots
- Both good and bad soils for septic fields and building foundations
- Several large areas with greater than 18% slopes

Development Capability

The upland areas are capable of supporting additional development. Steep slopes, poor soils and existing land ownership may limit development.

Planning Issues

- Loss of farmland and rural character concerns
- Potential user conflicts between different land uses (e.g. agricultural and medium density residential and/or industrial uses)
- Establish policies on low density rural residential housing and appropriate lot size



SUB ZONE 4 WALLOON LAKE AREA

Existing Land Use and Natural Resource Conditions

Existing land use - medium density/seasonal residential along lakefront, light industry at northern tip of Walloon Lake, and low density residential and agricultural/vacant land in southern area of zone

- Variable topography and soils
- Lakefront property already heavily developed residential

Development Capability


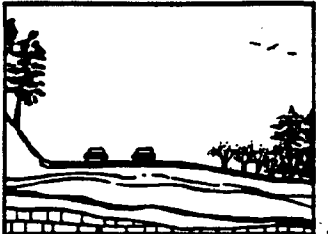
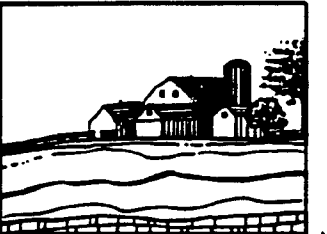
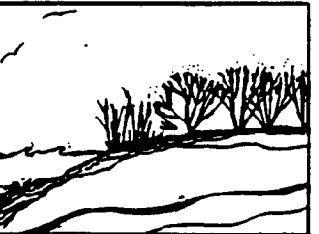
Pocket areas with good soils and relatively flat topography are capable of supporting additional development. Lake waterbed consists of fragile environment associated with concerns for water quality and lake management.

Planning Issues

- Loss of farmland and rural character concerns
- Physical, economic and social impacts on Walloon Lake
- Septic disposal and water quality
- Maintenance of visual quality
- Lake management

RESORT TOWNSHIP

SUB-PLANNING ZONES - STRATEGIES Table 17

 <p>SUB ZONE 1 NORTHEAST RESIDENTIAL AREA</p> <p>Alternative Land Use Strategies</p> <ul style="list-style-type: none"> o Conservation/Agriculture o Residential <ul style="list-style-type: none"> - Low Density - Medium Density - High Density o Professional/Office o Local Commercial <p>Alternative Management Strategies</p> <p><u>Enforcement of State Legislation</u></p> <ul style="list-style-type: none"> - P.A. 347 of 1970 (Soil Erosion & Sedimentation Control Act) - P.A. 203 of 1980 (Wetlands Protection Act) - P.A. 346 of 1972 (Inland Lakes & Steams Act) - P.A. 127 of 1970 (Michigan Environmental Protection Act) <p><u>Enactment of Local Zoning</u></p> <ul style="list-style-type: none"> - Site plan review - Greenbelt zoning - High risk erosion setbacks - Area, setback, height regulations - Use regulations - Landscape buffer zones - Performance controls - Planned unit development <p><u>Special Purpose Zoning</u></p> <ul style="list-style-type: none"> - Subdivision ordinance - Lot splitting regulations - Anti-keyholing provisions - Private road ordinance <p><u>Enforcement of County & State Health Department Regulation</u></p> <ul style="list-style-type: none"> - Septic fields - Wells <p>Alternative Organization Strategies</p> <ul style="list-style-type: none"> - Building Official - Zoning Administrator - Planning Commission - Master Planning and periodic update 	 <p>SUB ZONE 2 COASTAL AREA</p> <p>Alternative Land Use Strategies</p> <ul style="list-style-type: none"> o Conservation/Agriculture o Residential <ul style="list-style-type: none"> - Low Density - Medium Density - High Density o Professional/Office o Commercial <ul style="list-style-type: none"> - Local Commercial - Highway Commercial o Industrial <ul style="list-style-type: none"> - Light Industrial - Heavy Industrial o Parks and Open Space <p>Alternative Management Strategies</p> <p><u>Enforcement of State and Federal Legislation</u></p> <ul style="list-style-type: none"> - Same as Sub-Zone 1, and: - P.A. 245 of 1970, as amended (Shorelands Protection and Management Act) - P.A. 247 of 1955, as amended (Great Lakes Submerged Lands Act) <p><u>Enforcement of County and State Health Department Regulations</u></p> <ul style="list-style-type: none"> - Septic fields - Wells <p><u>Enactment of Local or County Zoning</u></p> <p>Same as Sub-Zone 1, and:</p> <ul style="list-style-type: none"> - Scenic Easements - Flood hazard regulations - Left turn lanes - Decel/acceleration lanes - Signage control and setbacks - Utility treatment (buried electric lines) - Traffic signal treatment - uniform design - Street lighting treatment - uniform design - Secondary access roads - Minimize curb cuts/consolidate driveways - Shared parking - Parking location and screening - preferably back and side yard parking as opposed to front yard use. <p><u>Special Purpose Zoning</u></p> <ul style="list-style-type: none"> - Subdivision ordinance - Lot splitting regulations - Anti-keyholing provisions - Private road ordinance <p><u>Organizing for Public Improvements</u></p> <ul style="list-style-type: none"> - Formulation of DDA - Consideration of TIFA - Consideration of impact fees - Special Assessment - Capital improvements planning <p>Alternative Organization Strategies</p> <ul style="list-style-type: none"> - Building Official - Zoning Administrator - Planning Commission - Master Planning and periodic update 	 <p>SUB ZONE 3 CENTRAL UPLANDS</p> <p>Alternative Land Use Strategies</p> <ul style="list-style-type: none"> o Conservation/Agriculture o Residential <ul style="list-style-type: none"> - Low Density - Medium Density - High Density o Professional/Office o Industrial <ul style="list-style-type: none"> - Light Industrial - Heavy Industrial o Parks and open space <p>Alternative Management Strategies</p> <p><u>Enforcement of State Legislation</u></p> <ul style="list-style-type: none"> - Same as Sub-Zone 1, and: - P.A. 116 of 1974 (Farmland and Open Space Preservation Act) <p><u>Enactment of Local Zoning</u></p> <ul style="list-style-type: none"> - Same as Sub-Zone 1 <p><u>Special Purpose Zoning</u></p> <ul style="list-style-type: none"> - Subdivision ordinance - Lot splitting regulations - Anti-keyholing provisions - Private road ordinance <p><u>Enforcement of County & State Health Department regulation</u></p> <ul style="list-style-type: none"> - Septic fields - Wells <p>Alternative Organization Strategies</p> <ul style="list-style-type: none"> - Building Official - Zoning Administrator - Planning Commission - Master Planning and periodic update 	 <p>SUB ZONE 4 WALLLOON LAKE AREA</p> <p>Alternative Land Use Strategies</p> <ul style="list-style-type: none"> o Conservation/Agriculture o Residential <ul style="list-style-type: none"> - Low Density - Medium Density o Parks and open space <p>Alternative Management Strategies</p> <p><u>Enactment of State Legislation</u></p> <ul style="list-style-type: none"> - Same as Sub-Zone 1 and 2, and: - P.A. 345 of 1966 (Inland Lake Improvement Act) <p><u>Enactment of Local Zoning</u></p> <ul style="list-style-type: none"> - Same as Sub-Zone 1, and: - Waterfront zoning provisions. <ul style="list-style-type: none"> - Anti funneling or keyholing - Waterfront setbacks - Accessory use (boat house) provisions <p><u>Enforcement of County & State Health Department Regulation</u></p> <ul style="list-style-type: none"> - Septic fields - Wells <p><u>Special Purpose Zoning</u></p> <ul style="list-style-type: none"> - Subdivision ordinance - Lot splitting regulations - Anti-keyholing provisions - Private road ordinance <p><u>Enforcement of County & State Health Department Regulation</u></p> <ul style="list-style-type: none"> - Septic fields - Wells <p>Alternative Organization Strategies</p> <ul style="list-style-type: none"> - Building Official - Zoning Administrator - Planning Commission - Master Planning and periodic update
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Sub-Zone 1, Northeast Residential

This area is characterized by a predominance of residential properties at low and medium densities. The area is in close proximity to the City of Petoskey and as such, will likely be affected by future development from the perimeter areas of the City.

Alternative land use strategies as presented in Table 17 include conservation/agriculture, residential, professional office, and local commercial. It is believed that future land use will be predominantly residential because of the proximity to the City of Petoskey. This would include low density residential (1 dwelling unit per acre), medium density residential (2-4 dwelling units per acre) and high density residential (5-7 dwelling units per acre).

Alternative management strategies include implementation of a variety of state legislation, local and county zoning regulations, special purpose zoning regulations and county and state health department regulations. These alternative management strategies are listed within Table 17.

Sub-Zone 2, Coastal Area

This area included the U.S. 31 corridor and land areas encompassing the Dundee property (Bay Resort Project). Of all the land areas within Resort Township, it is likely that these areas will receive the most severe pressures for future development. The proposed Bay Properties "super resort" and high traffic volumes associated with U.S. 31 will exert significant development demand.

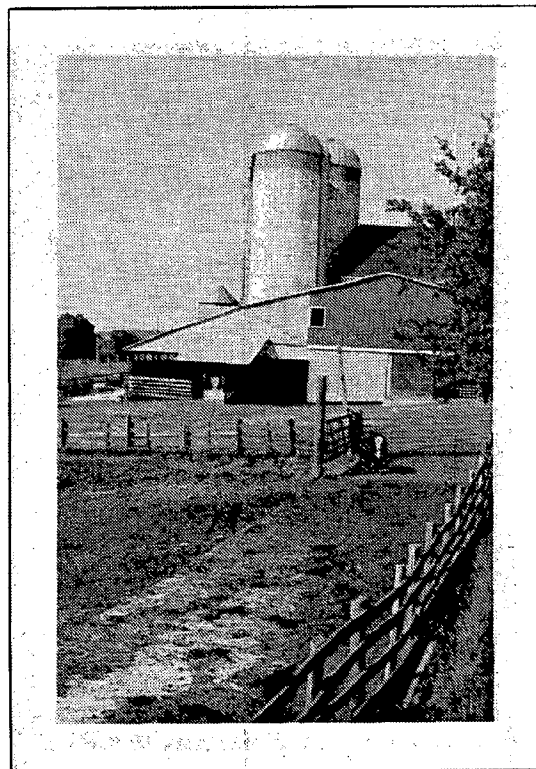
Planning issues for this area include concerns that the U.S. 31 corridor may develop into a "strip commercial development corridor". There are also concerns that the rural character of the Township within this area will be lost as well as scenic views of Lake Michigan.

Alternative land use strategies for this area include a wide array of uses including conservation/agricultural, residential, professional/office, commercial, industrial, parks and open space. Table 17 includes a listing of possible management strategies. These strategies are listed as potential tools for the control of future growth and development. County zoning or local zoning options will be the primary vehicle for regulating the growth and development within this sub-planning area.

Sub-Zone 3, Central Uplands

This area is characterized by a predominance of agricultural, vacant lands and low density residential. Planning issues are centered upon the loss of farm land and the encroachment of single family residential parcels upon open space areas.

Alternative land use strategies include conservation/agricultural, residential, professional/office, industrial and parks and open space areas. Alternative management strategies include measures to protect farm land areas such as inclusion of Public Act 116 as well as recognition of the importance of prime agricultural lands for agricultural production as well as the maintenance of the rural character of the Township.



Sub-Zone 4, Walloon Lake Area

A large portion of this area includes medium density/seasonal and year-round waterfront residential uses near Walloon Lake. Selected areas have limited development capability because of poor soils. Intensive use of the shoreline along Walloon Lake and the associated demands for on-site sanitary disposal and waterfront recreation places extraordinary demands on the natural features of these lands. The water quality of the Walloon Lake system must be maintained.

Alternative land use strategies include consideration of conservation/agriculture, residential and park and open space areas. Future commercial or industrial uses are believed not to be appropriate due to the sensitive environmental characteristics of this area. Alternative management strategies include implementation of state legislation which protects inland lake areas, wetlands, and other resource management strategies as well as local and County land use regulations.

Evaluation of Alternative Land Use Strategies

The next step in the planning process is to evaluate possible alternative land uses. This can be done by comparing these alternative land uses with various planning issues and policies established by the Planning Commission. This evaluation is summarized in Table 18 and presented on the following page. Each sub-planning area and corresponding alternative land uses are evaluated for the compatibility within the specific sub-planning area. Based upon this analysis and through careful consideration of all planning options, a preferred resource use management plan can be developed.

Table 18
Evaluation Matrix
Alternative Land Use Strategies

ALTERNATIVE LAND USES

- Impact Assessment**
- o Low impact potential
 - e Moderate impact potential
 - High impact potential

Conservation/Agricultural
Low Density Residential
Medium Density Residential
High Density Residential
Professional/Office
Local Commercial
Highway Commercial
Light Industrial
Heavy Industrial
Parks and Open Space

PLANNING ISSUES

NORTHEAST RESIDENTIAL

Compatibility with adjacent land uses
Compatibility with natural resources
Maintenance of scenic views
Preservation of Township's rural character
Dependence upon transportation artery
Dependence upon central sanitary/water services
Potential for increase tax base
Potential for tax burden/Township services

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COASTAL AREA

Compatibility with adjacent land uses
Compatibility with natural resources
Maintenance of scenic views
Preservation of Township's rural character
Dependence upon transportation artery
Dependence upon central sanitary/water services
Potential for increase tax base
Potential for tax burden/Township services

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CENTRAL UPLANDS

Compatibility with adjacent land uses
Compatibility with natural resources
Maintenance of scenic views
Preservation of Township's rural character
Dependence upon transportation artery
Dependence upon central sanitary/water services
Potential for increase tax base
Potential for tax burden/Township services

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WALLOON LAKE AREA

Compatibility with adjacent land uses
Compatibility with natural resources
Maintenance of scenic views
Preservation of Township's rural character
Dependence upon transportation artery
Dependence upon central sanitary/water services
Potential for increase tax base
Potential for tax burden/Township services

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IV

Concept Plan

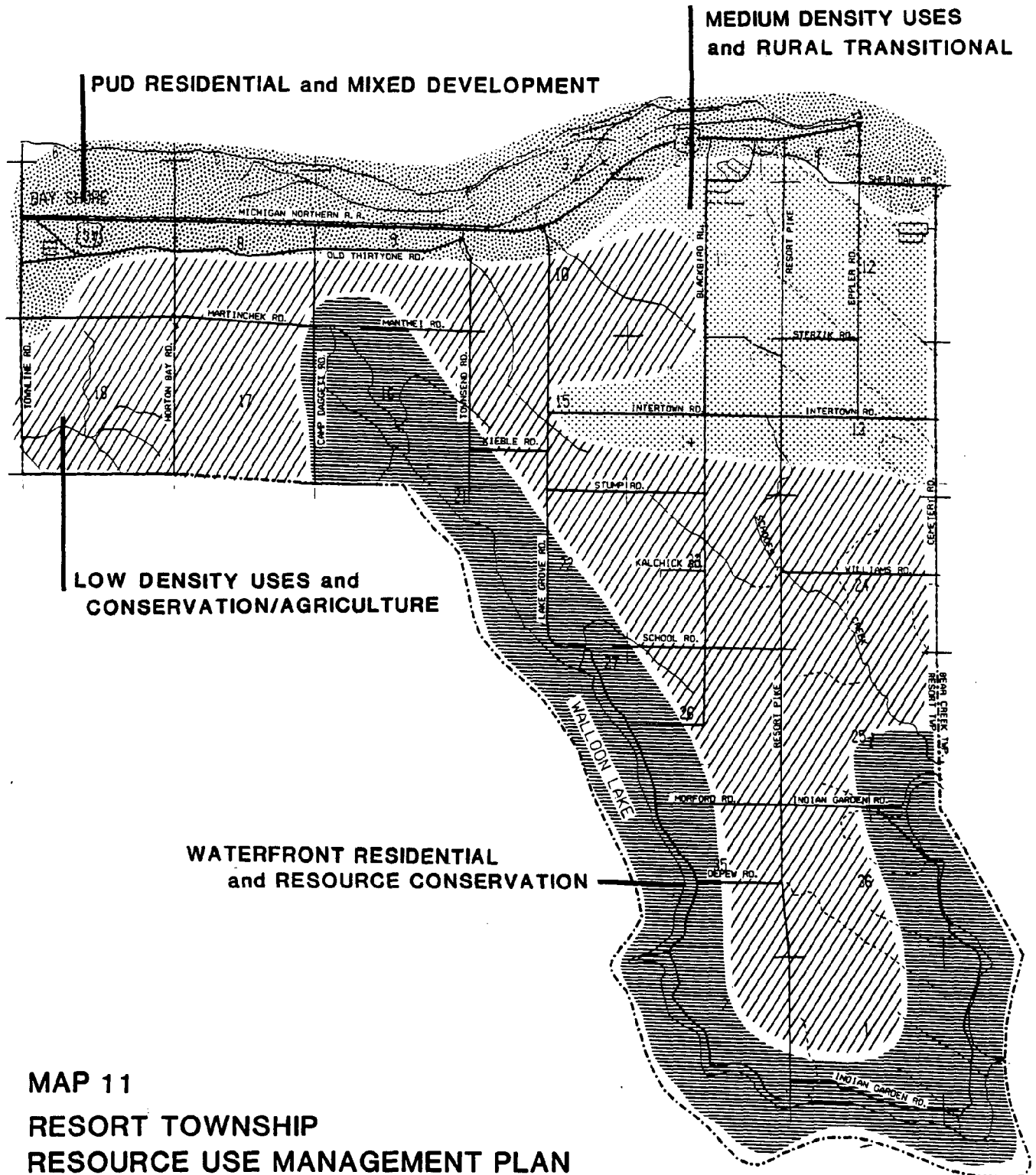
CONCEPT PLAN

Based upon the analysis of alternative land use strategies as well as input received from the background studies, policies and citizen questionnaire, a land use concept plan can be developed. The concept plan roughly follows the boundaries of the sub-planning areas and recommends conceptual land uses for these areas.

The land uses are as follows:

- Medium density uses and rural transitional
- PUD residential and mixed development
- Low density uses and conservation/agriculture
- Waterfront residential and resource conservation

The concept plan is intended to be used as a representation of the desired intensity of use for various areas. It does not represent specific land uses. More specific land uses are presented in following sections of this plan.



Ayres, Lewis, Norris and May, Inc.
Engineers



Planners

V

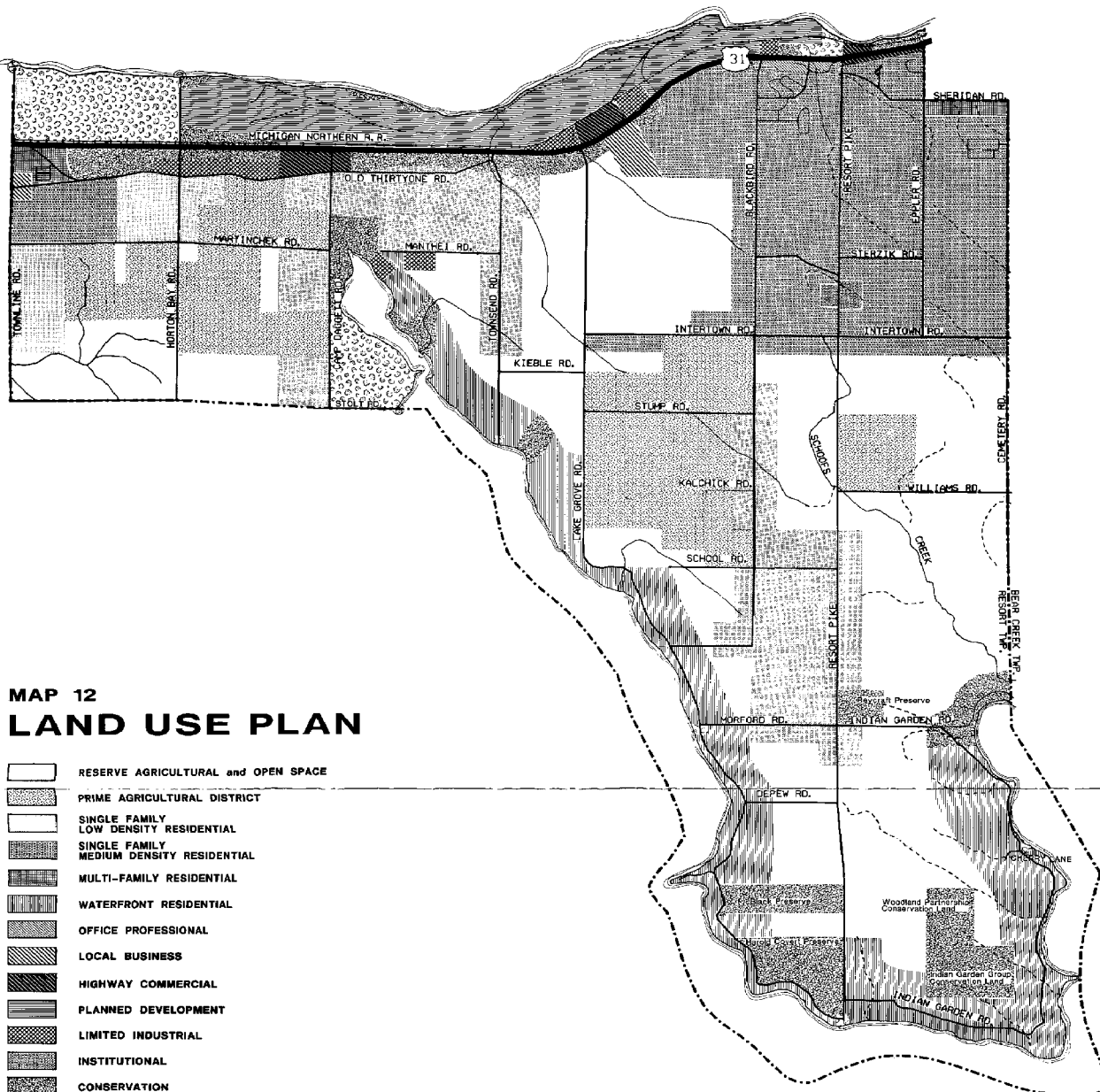
**Resource Use
Management Plan**

LAND USE PLAN

The Master Land Use Plan (Map 12), presented on the following page, illustrates the proposed physical arrangement of land use for the Township. The Land Use Plan serves to translate community goals into a narrative and graphic illustration. It is based largely upon existing land use patterns, current zoning, market demand and the desires of the residents of Resort Township.

The Plan was prepared to serve as a policy guide to Resort Township regarding current issues, land use decisions, investments in public improvements and to guide zoning decisions. The plan is intended to be a working document which will provide for the orderly development of the Township, assist the community in its effort to maintain and enhance a pleasant living environment while retaining the rural character of the Township.

The Land Use Plan is based upon comments and opinions gathered during the planning process and input gathered from the citizen questionnaire. To this extent it reflects general policies towards growth and development within the Township. The following policies are an important facet in guiding future development in Resort Township.



Land Use Goals

The Resort Township Planning Commission has prepared the following goals as overall statements of principle to guide future growth and development in the Township. These goals are listed as follows:

- o Retain the unique natural and manmade qualities of Resort Township.
- o Shape and control the form and quality of new development.
- o Maintain an ecologically sound balance between human activities and the environment.
- o Promote the health, safety and welfare of Township residents by coordinating the uses of land with the provision of efficient public services.

Land Use Policies

Non-Residential Development Policies

- o Discourage the fragmentation of land parcels within rural area. Where parcels are split encourage platting techniques which minimize the effect on land consumption.
 - o Encourage non-residential uses to concentrate in clusters in order to better provide necessary services and minimize the impact on the rural character of the Township.
 - o Establish buffer zones and/or transitional uses between urban areas and agricultural uses.
-

Residential Policies

- o Utilize zoning regulations to protect the environment surrounding seasonal and permanent homes.
- o Ensure that public services and facilities keep pace with residential development.
- o Utilize State and Federal programs (MSHDA, HUD, etc.) to improve existing housing quality.
- o Encourage clustering of residential units when possible to alleviate the need for multiple driveways onto main roads, promote efficient layout of utilities and services, and respect environmental features.
- o Realize that not all areas (especially environmentally sensitive areas) are suitable for residential development.

Economic Development Policies

- o Permit and retain job opportunities that are compatible with a rural resort community.
 - o Permit only non-polluting, low impact industries within the Township.
 - o Ensure adequate buffering of industrial and commercial businesses from adjacent uses and roadways.
 - o Encourage compatibility of industrial and commercial uses with environmental resources, scenic views, soils, topography and other locational factors.
-

- o Encourage active/productive use of prime agricultural lands for farming operations.
- o Recognize importance of the agricultural economy for both employment opportunities and the production of foodstuffs.
- o Ensure opportunities for the development of forest products, including timber production and finished wood product manufacturing.
- o Ensure opportunities for recreational boating and marine development and services.
- o Recognize importance of tourism for job opportunities and capital investment in Resort Township.
- o Ensure adequate and appropriate landscaping between businesses and roadways.
- o Encourage efficient site layouts for development, such as cluster development, and discourage uncontrolled strip development.
- o Establish beautification requirements such as appropriate setbacks, retainment of green space and landscaping techniques for areas undergoing land use change.

Land Use Strategies for Sub-Planning Zones

A generalized Land Use Concept Plan is presented in Map 11, which outlines sub-planning zones. More specific land uses are detailed in the Land Use Plan (Map 12). Generalized land use strategies, however, can be considered for each sub-planning zone. These are as follows:

Sub-Zone 1 - Northeast Residential

Existing land use within this zone is low to medium density residential. The proposed land use will be for continued low and medium density residential uses. Average densities will likely be in the range of 1 to 2 units per acre. The sub-planning zone also contains a small section of multi-family uses along Sheridan Road. This is proposed for a density of approximately 5 to 12 units per acre.

The generalized land capability map indicates the soils are generally good within this area for development activities. However, the limiting factors for development will be the steep slopes which are common in areas near U.S. 31. The slopes and hillsides offer excellent views of Lake Michigan. These views must be protected.

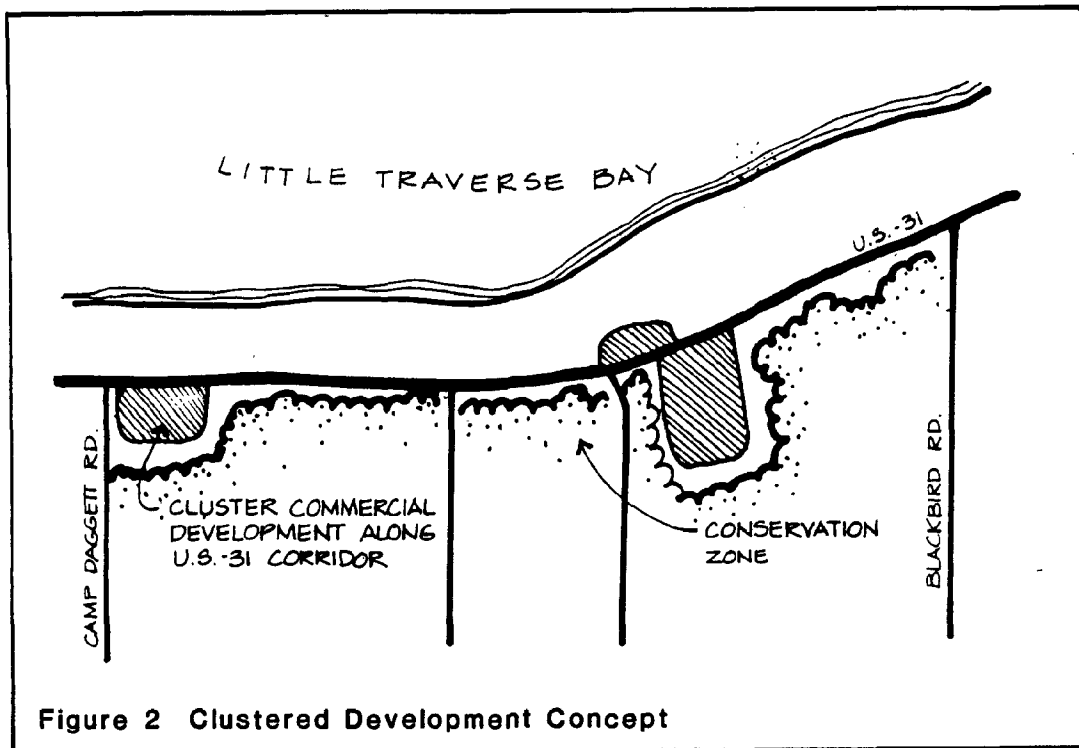
In some regards the area could be considered rural transitional. This is primarily due to impacts associated with development on the western fringes of the City of Petoskey. It is likely that over the next 10 or 20 years the area will be subject to intense development pressures because of the close proximity to urban services.

As development increases, increased traffic loads on the existing roadways will also increase. This will be especially noticeable on Intertown Road. Intertown Road provides a link between Resort Township, Bear Creek Township and U.S. 131. With increased traffic loads, it is likely that the development pressures along Intertown Road, as well as Resort Pike Road, Blackbird Road and Eppler Road will also become more intense.

Sub-Zone 2 - Coastal Area and U.S. 31

Sub-Zone 2 includes the coastal area and the U.S. 31 corridor. It is characterized by high traffic volumes along U.S. 31 and a predominance of commercial and industrial land uses. The Land Use Plan proposes that this area be planned for a mixture of commercial, industrial and conservation lands. The concept of clustering land uses along this corridor is recommended to avoid a strip

development pattern. The Township's intent is to minimize a proliferation of unplanned commercial and industrial development along the entire corridor. By concentrating development within planned areas, it is intended that the resources, scenic views and rural character of the Township can be protected. Figure 2 illustrates the clustering concept.



The conservation designation is recommended for areas containing steep slopes and wetlands where intensive commercial or industrial development would be incompatible with the existing natural resources. Conservation areas can include low density residential uses and or open spaces.

The development concept for this area also emphasizes the need for detailed site plan review to control and regulate the character of uses along the U.S. 31 corridor. The following chapter outlines specific guidelines for the future use of this area.

The Dundee property (Bay Resort Project) is located within Sub-Zone 2. A Planned Unit Development (PUD) project involving a mixture of residential and commercial uses is proposed within the Dundee property. While the project will have a major impact upon the coastal area and U.S. 31, the Township has begun establishing management policies for this complex which will help mitigate its impacts. These preliminary policies include:

- o Protect important natural resources of the project site, especially scenic views, wetlands, woodlands and coastal resources.
- o Minimize impacts to the U.S. 31 corridor by buffering development with greenbelts and by controlling off-site commercial development.
- o Provide public access to waterfront areas and waterfront facilities.

The size and scale of the Bay Resort project will have a major impact on the Township. This will be especially true in regards to traffic and public utilities. Traffic counts on U.S. 31 will see a significant increase. The developers will be required to create a centralized water and wastewater system. It is conceivable that utilities could be extended from the City of Petoskey to service this development. While the exact route and capacity of these utilities are not known, the Township must plan any extension and develop policies for off site hook up. If utilities are available within the U.S. 31 corridor, future water and sewer service districts should be planned to discourage strip development. Conservation zones and development setbacks should be used to encourage planned clustered development regardless of whether utilities are extended from the City of Petoskey.

Sub-Zone 3 - Central Uplands

The current uses in this central upland area are predominantly agricultural and vacant. It is widely recognized that in addition to the waterfront resources of the Township the agricultural character of the Township is one of its most important resources. Therefore every attempt will be made to retain agricultural lands.

The Land Use Plan recommends agricultural and low density residential uses for these areas. Existing agricultural lands which are actively being farmed, classified as prime or unique farmlands by the U.S. Department of Agriculture Soil Conservation Service and are mostly isolated from intensive development areas are recommended as a prime agricultural district by the Land Use Plan. In this zone agricultural production, farm related homes and structures will be the primary land uses. Other agricultural lands are recommended as reserve agricultural and open space. Some non-farm single family development will be considered acceptable in this zone. Typical recommended density patterns for non-farm residential areas will not exceed 1 dwelling unit per acre and average lot sizes are expected to be 2 to 5 acres in size.

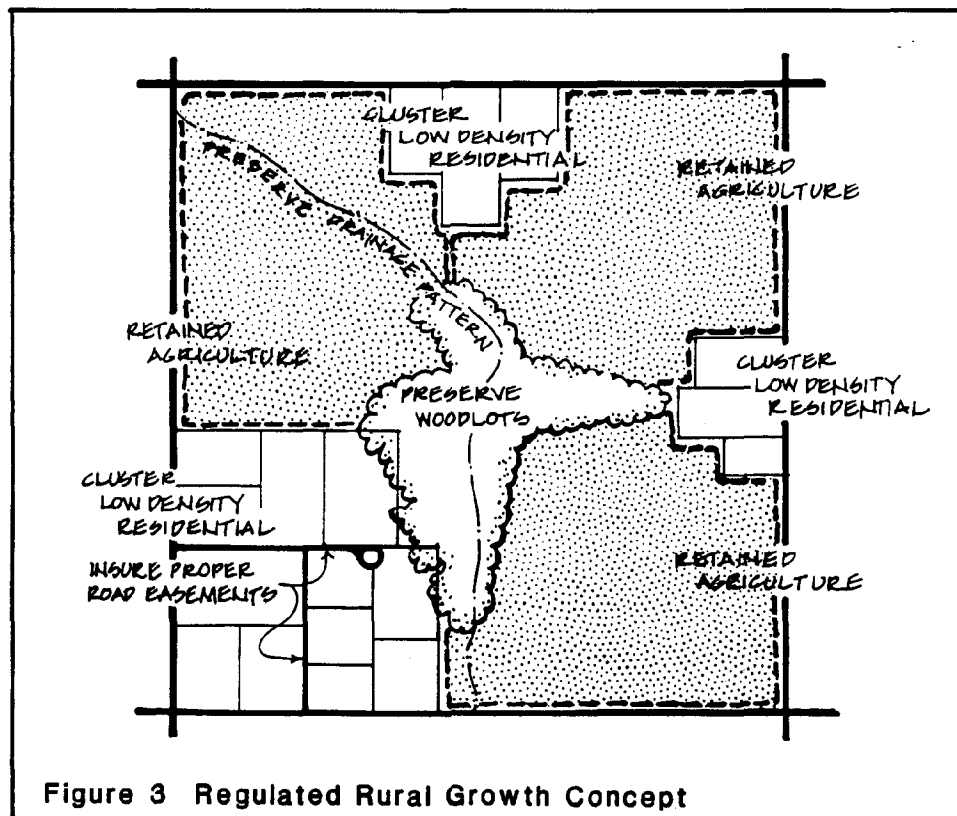


Figure 3 Regulated Rural Growth Concept

The Township Board and Planning Commission recognizes the importance of preserving agricultural lands within the Township. They will continue to promote efforts of farm land preservation and will continue to promote land use policies which preserve agricultural uses and prevent encroachment of non-agricultural land uses on these properties.

Sub-Zone 4 - Walloon Lake Area

This area includes properties along Walloon Lake which are predominantly single-family residential type uses. This area is one of the more environmentally sensitive areas within the Township because of its inclusion within the Walloon Lake watershed. Several areas bordering Walloon Lake are classified as wetlands by the Tip of the Mitt Watershed Council. These areas fronting Walloon Lake are recommended for conservation use.

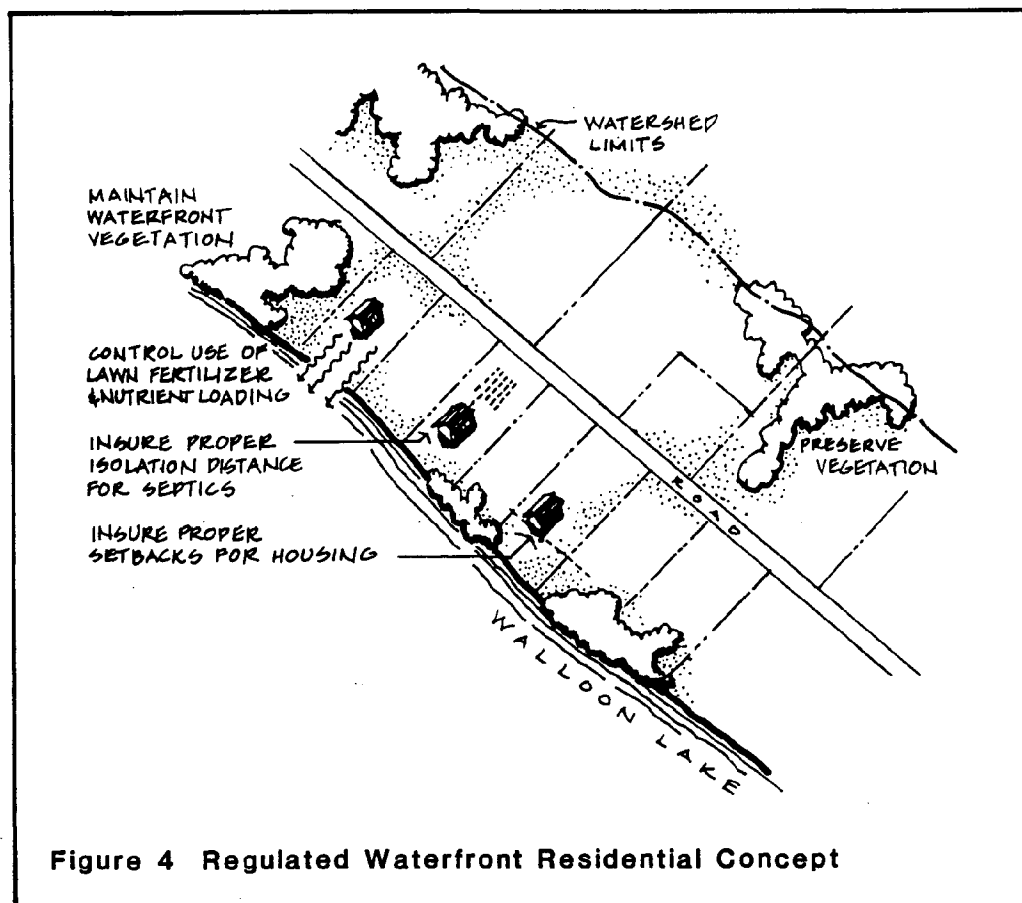


Figure 4 Regulated Waterfront Residential Concept

Recommended densities for this area are approximately 2 dwelling units per acre. This is contingent upon suitable soils for septic disposal.

The Walloon Lake area will be primarily reserved for waterfront residential. However, accessory uses such as boat storage which detract from the residential character are discouraged. Likewise, the development of inland properties which are 300 to 1000 feet from the shoreline, should also be retained for low density residential uses.

Land Use Map

The land use map is based on consideration of a number of factors. Such factors include:

- population projections
- roadway access and adequacy
- availability of utilities
- compatible uses
- community goals and objectives
- citizen opinions
- existing land use
- existing zoning

In consideration of these factors, various land use categories can be established. The following land use classifications are used in developing the land use plan for Resort Township.

- **Prime Agricultural** is intended for existing agricultural areas which are actively being farmed and are classified as prime or unique farmlands by the U.S. Department of Agriculture Soil Conservation Service. In addition, these lands are primarily isolated from intensive development.

- **Agricultural and Open Space** is intended for existing agricultural areas or previously farmed open space areas, woodlands and non-developable areas due to natural resource limitations. These areas include transitional, reserve agricultural lands which are likely to evolve to low density residential.
 - **Single Family Low Density Residential** is intended for existing and proposed residential development. Densities for this area will be proposed to accommodate a minimum of 1 dwelling unit per acre. It should be noted that this is a minimum standard and average lot sizes are expected to range between 2 and 10 acres in size.
 - **Single Family Medium Density Residential** are areas capable of supporting higher density residential developments at a density of approximately 2 dwelling units per acre. These areas are considered to be rural transitional and are in close proximity to suitable roads and commercial services within the Township and the City of Petoskey.
 - **Multi-Family Residential** are areas capable of supporting development at higher density levels. The higher densities will include a range of housing alternatives which can include apartment units, condominiums, townhouses, etc. Densities will range between 5 and 8 units per acre. It is anticipated that these developments will offer centralized water and sewer services.
 - **Waterfront Residential** are residential areas adjacent to Walloon Lake. These lands are often environmentally sensitive because of their close proximity to the waterfront. Typical densities will not exceed 2 dwelling units per acre.
 - **Local Business/Office Professional** includes medical offices, office complexes, retail uses and convenience retail uses. The intensity of use for this district is moderate in that parking needs, signage, and buffer landscaping are minimal.
-

- **Highway Commercial** are areas intended for more intense commercial usage. The land use district is heavily dependent upon highway frontage, high traffic volumes and visibility from a major thoroughfare such as U.S. 31. Typical uses include automobile dealerships, service centers, restaurants and other commercial uses.
- **Planned Development** land use is recommended for the lands included in the Dundee Property (Bay Resort Project). The planned development classification incorporates a mixture of land uses such as residential and commercial within an overall planned development area. The area will likely be served by central water and sewer service.
- **Limited Industrial** incorporates low impact industrial uses such as light manufacturing, warehousing, and services.
- **Institutional** includes existing and proposed governmental land uses such as Township Hall, library, school sites, and churches.
- **Conservation** includes public and private land areas reserved for conservation and open space uses or very low density residential uses where there will be minimal impact upon areas containing steep slopes, fragile wetlands or other limiting natural resources.

The conservation category also includes lands maintained as preserves, such as the Reycraft Preserve, the Black Preserve, the Harold Covert Preserve, the Woodland Partnership Conservation Area and the Indian Garden Group Conservation Area. Only low impact recreational uses and specified forest management activities are allowed within these lands.

- **Public Waterfront Access and Parkland** includes publically owned access sites and large acreages for waterfront recreation. This may include picnicking, swimming, and other waterfront recreation uses.

The allocation of proposed land uses is depicted in Map 12 and on Table 19. This table summarizes the proposed land use acreages for each district.

The Land Use Plan is not intended to serve as a zoning map nor to dictate the use of individual parcels of property. Instead, the purpose of the Plan is to provide guidance for zoning decisions and management of important resources.

Table 19
Resort Township
Land Use Plan Acreages

Land Use	Planned Acres	% of Total
Reserve Agricultural and Open Space	3725	24.93
Prime Agricultural	1403	9.40
Single Family Residential - Low Density	1630	10.91
Single Family Residential - Medium Density	2139	14.32
Multiple Family Residential	72	0.48
Waterfront Residential	1360	9.10
Local Business/Office Professional	68	0.46
Highway Commercial	99	0.66
Planned Development	850	5.69
Limited Industrial	84	0.56
Institutional	25	0.17
Conservation	1039	6.95
Waterfront Public Access/Parklands	355	2.37
Roads	510	3.41
Lakes	1582	10.59
State Owned Lands	0	0.00
TOTAL	14,941	100.00

NATURAL RESOURCES PLAN

The Natural Resources Plan presents the various strategies available to achieve the goals and policies identified for the management of Resort Township's natural resources. Goals and policies for steep slopes, sensitive soils, wetlands, wooded areas, scenic views, the coastal area, Walloon Lake, and protection of agricultural lands are combined. Strategies for these resources, however, are presented separately. Laws which apply to the management of the above mentioned resources are displayed in Table 20 at the end of the Natural Resources Plan.

Goals

- o Promote the protection of sensitive features including wildlife habitat, wetlands, lakes, streams, steep slopes and wooded areas.
- o Recognize the importance of managed forests in providing wildlife habitat, erosion control, micro-climate control and scenic views.
- o Recognize the importance of agricultural production within Resort Township. Recognize that the presence of agricultural lands add to the scenic and rural character of the Township.

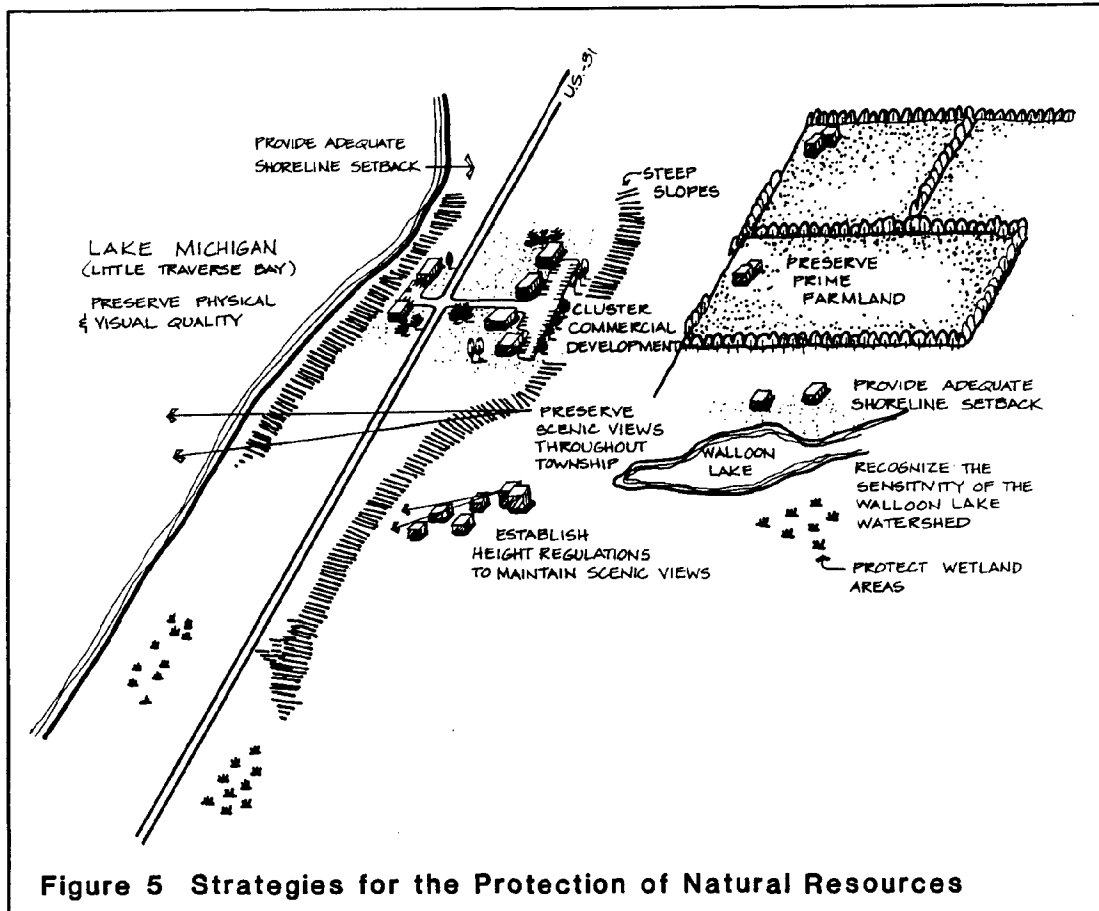
Policies

- o Retain natural vegetative cover within conservation areas.
 - o Encourage planting of tree species associated with the Northern Hardwoods community such as eastern white pine, balsam fir, eastern hemlock, basswood, yellow birch, sugar and red maple, beech and striped maple.
 - o Encourage planting of Northern Hardwoods related shrub species in appropriate areas such as along slopes and in areas where visual buffers are desired. Roundleaf serviceberry, roundleaf dogwood, atlantic leatherwood,
-

canada yew and american cranberrybush viburnum are a few examples of the shrub species native to northern Michigan.

- o Promote the continued use of the Reycraft Preserve as a study area for forestry management students.
 - o Retain and manage existing forested areas.
 - o Promote re-forestation and sound forestry management practices of productive forest soils.
 - o Maintain productive agricultural farmland .
 - o Encourage farmers to use programs such as P.A. 116, the Farmland Open Space Act, which is intended to retain farmland.
 - o Support legislative reform measures to assist in retaining farmland.
 - o Discourage the conversion of farmland into other more intensive uses.
 - o Protect the water quality and scenic views of Walloon Lake, its shoreline and its sensitive watershed.
 - o Protect groundwater and surface water resources.
 - o Promote shoreline use along Little Traverse Bay which is non-detrimental to lake water quality and/or scenic views.
 - o Obtain scenic easements to Lake Michigan and Walloon Lake where appropriate.
 - o Protect the sensitive and natural resources and scenic amenities within the Township such as steep slopes, wetland soils, wooded areas and wildlife habitat.
-

Strategies



Steep Slopes

- o The Slopes map identifies slopes greater than 18% within the Township. This map will assist in the review of proposed developments.
- o The Land Capability map identifies areas least acceptable for development (slopes greater than 18% is one of the limiting factors).
- o Site Plan Review conducted by the County and the Township Planning Commission, offers an excellent opportunity to identify potential development impacts on steep slopes.

- o Steep slopes within the U.S. 31 corridor have been classified as conservation areas.

Sensitive Soils

- o The Soils map identifies the location of soils with poor septic field and building foundation characteristics within the Township.
- o The Land Capability map identifies areas least acceptable for development (sensitive soils is one of the limiting factors).
- o The Land Use Plan identifies conservation areas containing sensitive soils.
- o Site Plan Review offers an opportunity to regulate the location and size of new buildings and paved surfaces.

Wetlands

- o The Wetlands map identifies the location of wooded, non-wooded, emergent wetlands, streams and creeks found within Resort Township.
 - o The Land Capability map identifies areas least acceptable for development (wetlands and drainage patterns are included as limiting factors).
 - o The Land Use Plan recommends preserving wetlands within the U.S. 31 corridor. Conservation areas have been designated.
 - o The Site Plan Review process should require the identification of any wetlands within a proposed project area.
 - o Act 203, P.A. 1980, Wetlands Protection Act requires a permit from the Michigan Department of Natural Resources (MDNR) to dredge, fill, construct,
-

or drain any wetland contiguous to inland lakes or streams, the Great Lakes, or greater than 5 acres in size. Wetlands less than 5 acres in size and not contiguous to inland lakes, streams or the Great Lakes may require a MDNR permit for the above mentioned activities if the department determines the protection of the area is essential to the preservation of the natural resources of the state.

Wooded Areas

- o The Woodlands map illustrates the location of deciduous and coniferous woodlands within the Township.
- o The Township's development review process provides an opportunity to determine the potential impact of development on existing vegetation.
- o Regulations on buffer zones or setbacks established through the zoning ordinance can help preserve desired existing vegetation.
- o Landscape requirements for new developments can ensure appropriate planting and maintenance of desired plant species.

Scenic Views

- o The Township's Site Plan Review process provides opportunities to determine if proposed building locations and building heights will negatively impact scenic views within the Township.
- o The Township should consult contour maps to determine how future buildings will impact scenic views.
- o Utilize underground utilities to protect scenic views.

- o The Township or private groups may wish to consider the purchase of scenic easements to protect valuable view areas.
- o The Township may wish to acquire lands offering scenic views for public enjoyment.

Coastal Area

- o Much of the coastal area is categorized as a Planned Unit Development in the Land Use Plan. The area generally extends from the shoreline of Lake Michigan to U.S. 31. Associated with the PUD Classification are special setbacks, buffer areas, landscape requirements, open space and density requirements.
 - o Development activities within the coastal area may be subject to several restrictions as identified by:
 - Act 247, P.A. 1955, as amended Great Lakes Submerged Lands Act
 - Section 404, Dredge and Fill Permits; Rivers and Harbor Act of 1899, Section 10
 - P.L. 95-217, Clean Water Act, Section 401, Water Quality Certification
 - Act 347, P.A. 1970, Soil Erosion and Sedimentation Control Act
 - Act 245, P.A. 1970, as amended Shorelands Protection and Management Act
 - Act 203, P.A. 1980, Wetlands Protection Act
-

Walloon Lake Area

- o The land surrounding Walloon Lake is recommended for waterfront residential use and waterfront public access/parkland use in the Land Use Plan. Within the waterfront residential category, only areas containing acceptable soils, moderate slopes and absence of wetlands and drainage ways should be used for single family residential purposes. Areas containing sensitive resources within this zone, however, should not be developed.
- o A lot width minimum of 100' would be appropriate for areas recommended as waterfront residential in the Land Use Plan.
- o The County Health Department provides guidelines for septic tank size and locations. The Walloon Lake Association also recommends setbacks to preserve a greenbelt of vegetation around the lake and appropriate lawn fertilizing maintenance activities.
- o Act 346, P.A. 1972, Inland Lakes and Streams Act requires a permit from the Michigan Department of Natural Resources to dredge, fill or construct in inland lakes or streams below the ordinary high water mark.

Agriculture

- o A map prepared by the U.S. Department of Agricultural Soil Conservation Service, presented in the appendix section of the Resource Use Management Plan, illustrates areas within the Township containing prime, unique and other important farmlands.
 - o The Land Use Plan recommends certain areas as a prime farmland district. Land within these areas would be used only for agricultural purposes and associated farm dwelling units.
 - o The Township may wish to consider agricultural zoning.
-

- o Development activities within lands proposed for reserve agricultural and open space uses in the Land Use Plan may be subject to lot size restrictions.
- o Non-agricultural land uses within agricultural areas should be clustered to preserve large tracts of land for agricultural activities.
- o The Township may provide information to private land owners regarding land use covenants such as Act 116, P.A. 1974, Farmlands and Open Space Preservation Act or deed restrictions to preserve their land for agricultural activities.

Table 20
Laws with Direct Applicability to the
Management of Natural Resources within Resort Township

Resource	Law	Type of Jurisdiction
Steep Slopes	Act 347, P.A. 1970 Soil Erosion and Sedimentation Control Act	Permit from local enforcement agency required if a proposed project would disturb one or more acres of land or move earth within 500 feet of a lake or stream.
	Act 245, P.A. 1970, as amended Shorelands Protection and Management Act	Local zoning or MDNR permit process regulates new construction in designated environmental, high risk erosion, and high risk flood areas.
Sensitive Soils	Act 347, P.A. 1970 Soil Erosion and Sedimentation Control Act	Permit from local enforcement agency required if a proposed project would disturb one or more acres of land or move earth within 500 feet of a lake or stream.
	Act 245, P.A. 1970, as amended Shorelands Protection and Management Act	Local zoning or MDNR permit process regulates new construction in designated environmental, high risk erosion, and high risk flood areas.
Wetlands	Act 203, P.A. 1980 Wetlands Protection Act	Permit from MDNR required to dredge, fill, construct, or drain any wetland contiguous to inland lakes and streams, the Great Lakes, or greater than five acres.
Woodlands	Act 347, P.A. 1970 Soil Erosion and Sedimentation Control Act	Permit from local enforcement agency required if a proposed project would disturb one or more acres of land or move earth within 500 feet of a lake or stream.
	Act 245, P.A. 1970, as amended Shorelands Protection and Management Act	Local zoning or MDNR permit process regulates new construction in designated environmental, high risk erosion, and high risk flood areas.
Farmland and Open Space	Act 116, P.A. 1974 Farmland and Open Space Preservation Act	Voluntary enrollment by private landowner. Places restrictions on types of land use allowed on property in return for tax credits for landowner.
Coastal Area	Act 247, P.A. 1955, as amended Great Lakes Submerged Lands Act	Permit from MDNR required to modify or construct in Great Lakes bottomlands. Marina leases also issued under this Act.
	Section 404 Dredge and Fill Permits	Army Corps of Engineers permit program jointly administered with State Acts 346 and 247.
	Rivers and Harbors Act of 1899, Section 10	Administered in conjunction with Section 404 permit program.
	P.L. 95-217, Clean Water Act Section 401, Water Quality Certification	Administered by MDNR - Certification that project is in compliance with State water quality standards.

Resource	Law	Type of Jurisdiction
Coastal Area (cont.)	Act 347, P.A. 1970 Soil Erosion and Sedimentation Control Act	Permit from local enforcement agency required if a proposed project would disturb one or more acres of land or move earth within 500 feet of a lake or stream.
	Act 245, P.A. 1970, as amended Shorelands Protection and Management Act	Local zoning or MDNR permit process regulates new construction in designated environmental, high risk erosion, and high risk flood areas.
	Act 203, P.A. 1980 Wetlands Protection Act	Permit from MDNR required to dredge, fill, construct, or drain any wetland contiguous to inland lakes and streams, or the Great Lakes.
Walloon Lake Area	Act 346, P.A. 1972 Inland Lakes and Streams Act	Permit from MDNR required to dredge, fill or construct in inland lakes or streams.
	P.L. 95-217, Clean Water Act Section 401, Water Quality Certification	Administered by MDNR - Certification that project is in compliance with State water quality standards.
	Act 347, P.A. 1970 Soil Erosion and Sedimentation Control Act	Permit from local enforcement agency required if a proposed project would disturb one or more acres of land or move earth within 500 feet of a lake or stream.
	Act 203, P.A. 1980 Wetlands Protection Act	Permit from MDNR required to dredge, fill, construct, or drain any wetland contiguous to inland lakes and streams, or the Great Lakes.
	Act 243, P.A. 1951 Servicing of Septic Tanks, Seepage Pits or Cesspools	Persons engaged in servicing and cleaning of septic tanks, seepage pits or cesspools must be licensed and bonded by the commissioner of health.

U.S. 31 AND COASTAL AREA CORRIDOR MANAGEMENT PLAN

Of all the study areas within Resort Township, U.S. 31 and the Coastal Area remains one of the more important areas in the Township for the study of land use. First, it is part of the coastal area and as such is likely to receive significant development pressures. The proximity to Lake Michigan and the availability of a major state highway such as U.S. 31 makes this corridor prime for development. The development potential is also compounded by the fact that Dundee Cement Company owns significant land holdings within this corridor with stated plans for future development. Together, these factors make this area unique to both the Township and the region.

Regardless of the future development, the U.S. 31 corridor is already experiencing problems. Since 1980, traffic has significantly increased. New industrial uses, commercial uses and residential uses have also developed within the corridor causing impacts on natural resources, disruption of scenic views and a general change in the rural character of the Township.

The purpose of this section is to develop long range strategies for the control and management of future growth within the corridor. This can be accomplished by establishing development policies, recommended land uses, development guidelines and an implementation plan. Recommended land uses for the corridor were presented in the preceding chapter. Policies, development guidelines and an implementation plan is provided in the following pages. Table 21, presented at the end of this Plan, summarizes the proposed development policies and guidelines in relation to specific areas found within the U.S. 31 corridor.

Goals

- o Recognize the importance of the U.S. 31 corridor in providing a positive image of Resort Township to visitors and Township residents.

- o Promote the protection of sensitive natural resources and scenic amenities within the corridor.

Policies

- o Cluster commercial uses in non-sensitive areas while discouraging strip corridor development.
- o Encourage the use of attractive entrance signs and landscaping at the main intersections leading into Resort Township.
- o Minimize traffic hazards at major intersections and along U.S. 31.
- o Encourage development of non-motorized transportation routes (i.e. sidewalks and bicycle lanes and/or paths to improve safety along U.S. 31).
- o Establish secondary access roads to businesses.
- o Minimize driveways off of U.S. 31 by combining access to two or more businesses when possible.
- o Require on-site facilities such as retention and detention ponds to handle stormwater runoff serviced by storm sewers. Consider off-site drainage way patterns to reduce the potential of storm water flooding and soil erosion.

Development Guidelines

One of the characteristics associated with development along transportation corridors is the constantly changing scene. Unfortunately, the changes in land use along a corridor can result in confusing and unsafe conditions for both pedestrians and motorists. The disarray of signs, varying land uses, numerous unregulated curb cuts and overhead wires are just a few of the problems often experienced by those passing through an urbanized transportation corridor.

Presently, U.S. 31 is not located in a highly urbanized corridor within Resort Township. Anticipated future development pressures, however, will eventually alter the character of U.S. 31. The following development guidelines will assist Resort Township decision-makers in controlling future development practices and consequently guiding the appearance of U.S. 31 while integrating environmental and economic resources.

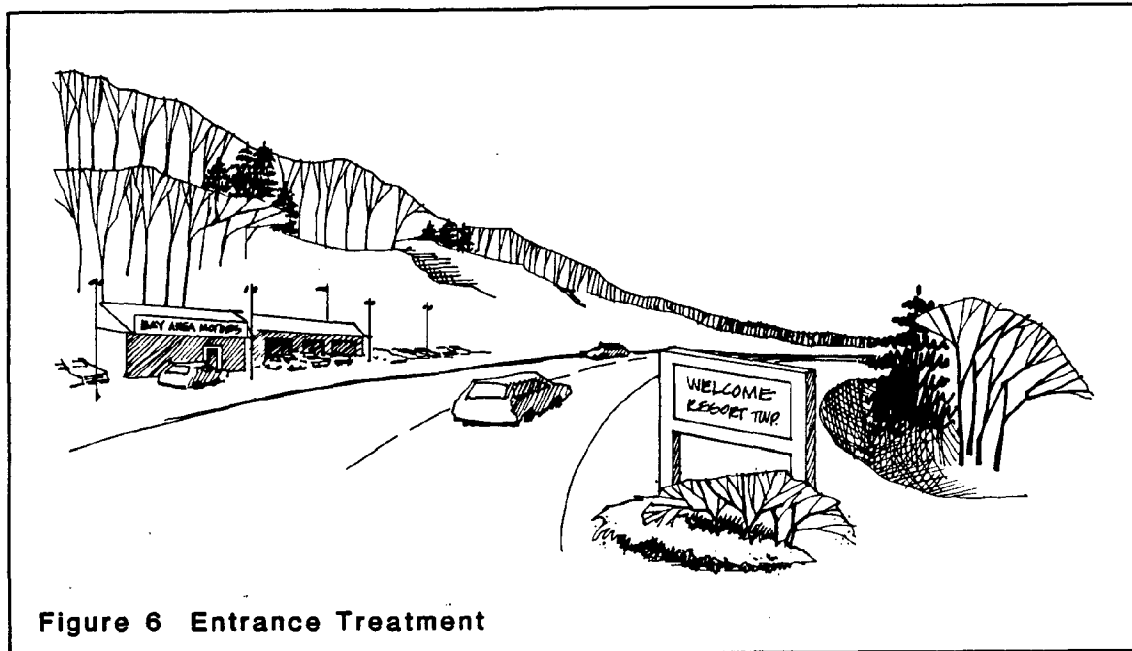
Circulation

Associated with any new development along U.S. 31 will be impacts on the existing circulation patterns. New development will attract non-Township residents and consequently increase traffic volumes within the Township. As a result, entrance areas will become important points for communicating the Township's identity. Furthermore, new development will require additional driveways, roads, parking areas and non-motorized circulation routes. The impact of these additions on circulation patterns and the character of the U.S. 31 corridor will depend on their design treatment. Design guidelines pertaining to circulation and traffic flow are therefor presented.

Entrance Areas

The primary entrances to Resort Township are at the intersection of U.S. 31/Eppler Road and U.S. 31/Townline Road. A secondary entrance area occurs at the Intertown Road and Cemetery Road intersection. These three areas offer an opportunity to promote a stronger township identity and hopefully reinforce Resort Township residents' pride in their community. As presently viewed, the motorist on U.S. 31 has no clear image of which political subdivision they are in nor is there an established identity to the Township. Entry signs along U.S. 31 will help address this problem and promote the Township's commitment to an improved corridor.

Attractive welcome signs to residents and visitors in addition to associated landscaping should be located adjacent to the three intersections facing the direction of incoming Resort Township traffic. A sketch of a possible design treatment for a welcome sign at the U.S. 31 and Eppler Road intersection follows.



Dundee Property Development

With the development of the Dundee Property (Bay Resort Project) numerous impacts can be anticipated. First of all the development of this resort will create a significant increase on traffic along the US. 31 Corridor. Traffic engineers estimate that for every residential unit 7 to 10 trips per day can be generated. If full development occurs the resort complex could generate anywhere from 20,000 to 30,000 extra trips per day on the U.S. 31 highway. This would nearly triple the current traffic loads and would necessitate widening of U.S. 31, installation of traffic lights, and curbing and drainage improvements.

Design improvements are impossible to predict or even recommend at this time. The future design of U.S. 31 will of course be dependent upon actual traffic loads, surrounding land uses, the status of the U.S. 31 bypass and design recommendations by the Michigan Department of Transportation. Possible alternatives as to the widening of U.S. 31 are presented as part of the Appendix of this report. These alternatives include consideration of a center left hand turn lane, expansion to four lanes and even the creation of a boulevard or parkway concept.

In terms of combining traffic efficiency and aesthetics, the boulevard concept is recommended. The boulevard concept will insure space for landscaping, retention of significant views and excellent traffic flow. Existing right of way width is 150 feet. A total right of way width of 200 feet will be required for development of a boulevard.

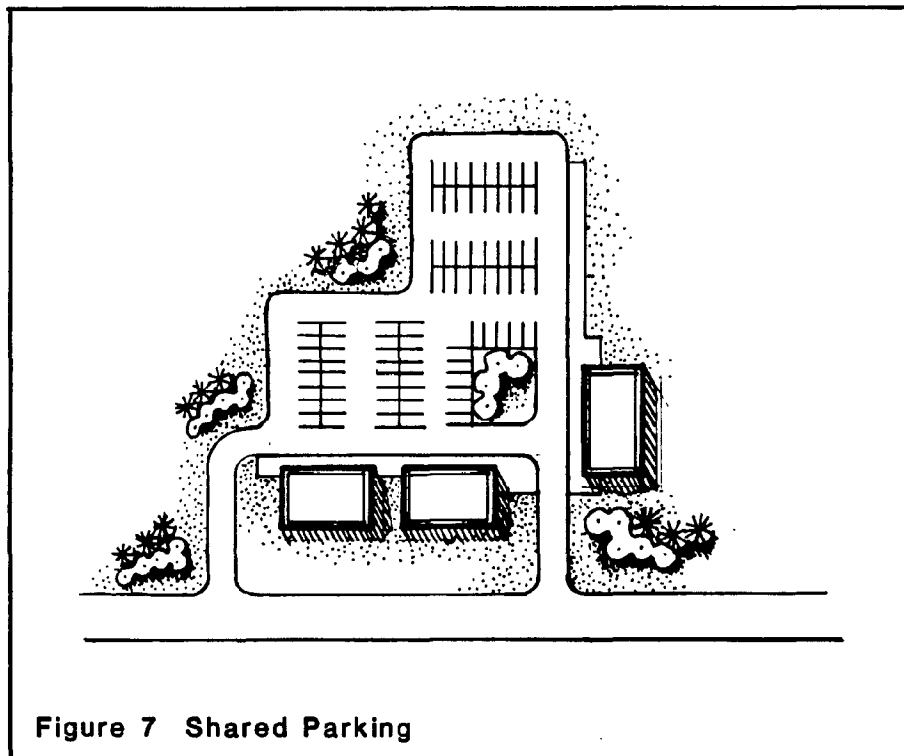
Another impact associated with the development of the Bay Resort Properties will be the location and character of entrance drives from U.S. 31 to the resort complex area. As presently proposed, the developers are considering two primary entrance drives. The first would be near the current driveway entrance for Dundee Cement. This is east of Lake Grove Road and would provide direct access to the proposed marina area. The second driveway access would be approximately one mile west of this near Camp Daggett Road. Near both these intersections it is likely that a traffic signal would have to be considered.

The entrance drives and intersections would also have a significant impact upon surrounding land use. It is likely that there will be significant development pressures for commercial or residential uses on the south side of U.S. 31 and near these intersections. The Township must carefully monitor future plans for this complex and pay particular attention to future entrance drives as they interface with U.S. 31.

Greenbelts and Shared Parking

Parking and service areas associated with development along U.S. 31 should be located primarily in the rear and side yards. The land in front of future and existing buildings should be retained as green space thereby establishing a formal greenbelt with landscaping. This practice will help create a continuous greenbelt along U.S. 31 and maintain its rural character.

Shared parking for two or more commercial businesses will benefit shoppers and store owners. Shoppers will be able to park in a central location and access two or more businesses without re-parking. Businesses can share in the costs of parking lot maintenance and combine their landscaping efforts within the parking lot area to create a more unified appearance of landscaped areas. Shared parking, however, will require cooperation and good communication between private and public parties. The following diagram illustrates the advantages of shared parking.



Secondary Roadways

Another method to reduce the number of driveways intersecting the main corridor road is the use of secondary roadways. The following sketch shows how a second road may be developed parallel to the main corridor but located behind a cluster of buildings. This secondary road will collect traffic from the various buildings and funnel it to a major intersection with the main corridor road. As a result, fewer driveways will intersect the main corridor and fewer points of potential traffic conflict will occur. The development of secondary roadways will also foster cluster commercial centers instead of strip commercial development.

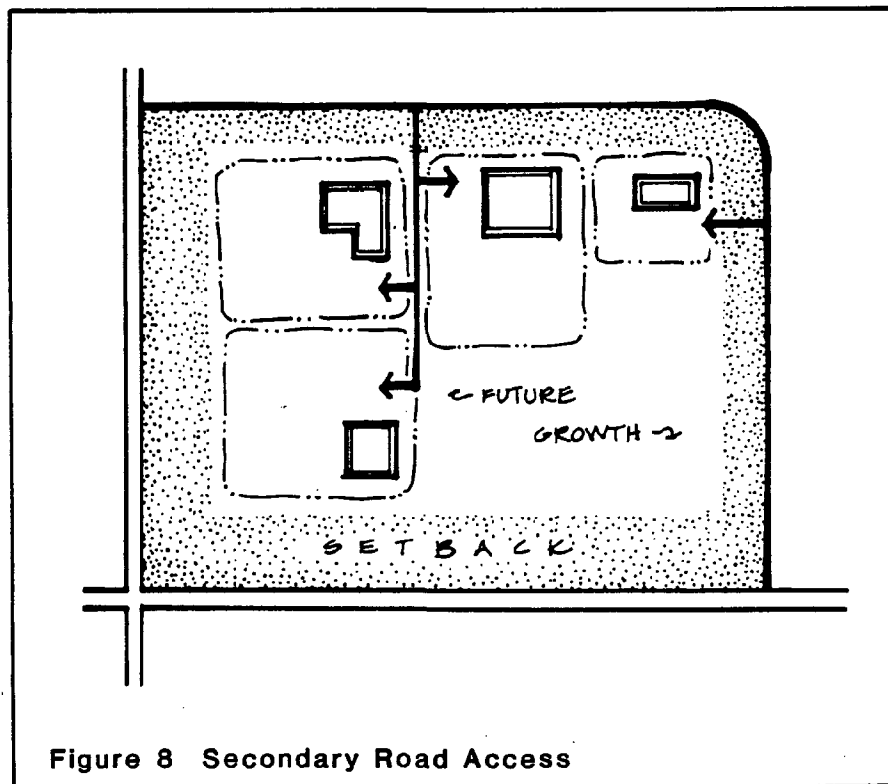
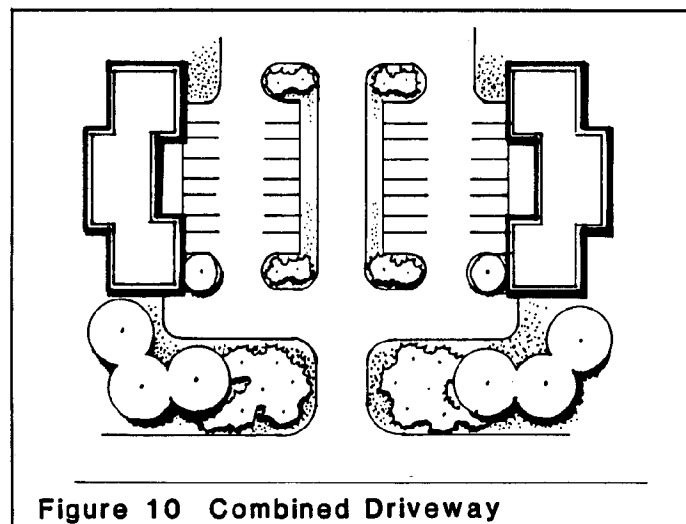
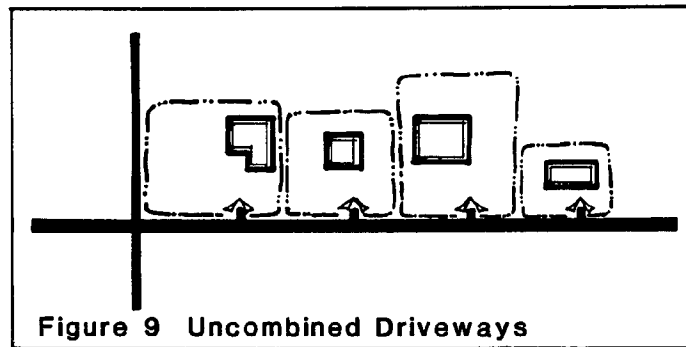


Figure 8 Secondary Road Access

Driveway Consolidation

A common problem associated with urbanized corridors is the large number of driveway cuts occurring along the main corridor road. Each entrance and exit driveway is a potential point of conflict between two or more motorists and between motorists, bicyclists and pedestrians. The following diagrams illustrate that by combining driveways the number of possible conflict areas can be reduced. Furthermore, the land set aside for landscaping and buffering is less divided by driveways. A simplified road edge will help motorists focus their attention ahead and improve traffic safety. As new land use plans are proposed for the land adjacent to U.S. 31, consideration should be given to limiting the number of driveways developed.

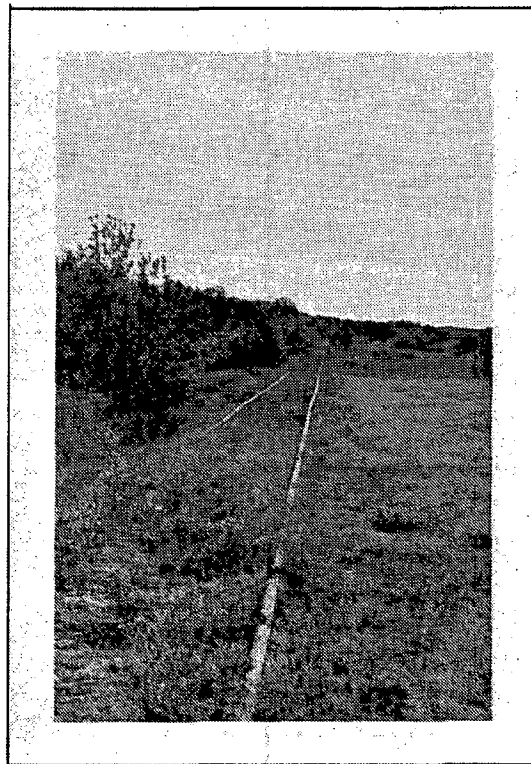


Pedestrian and Bicycle Use

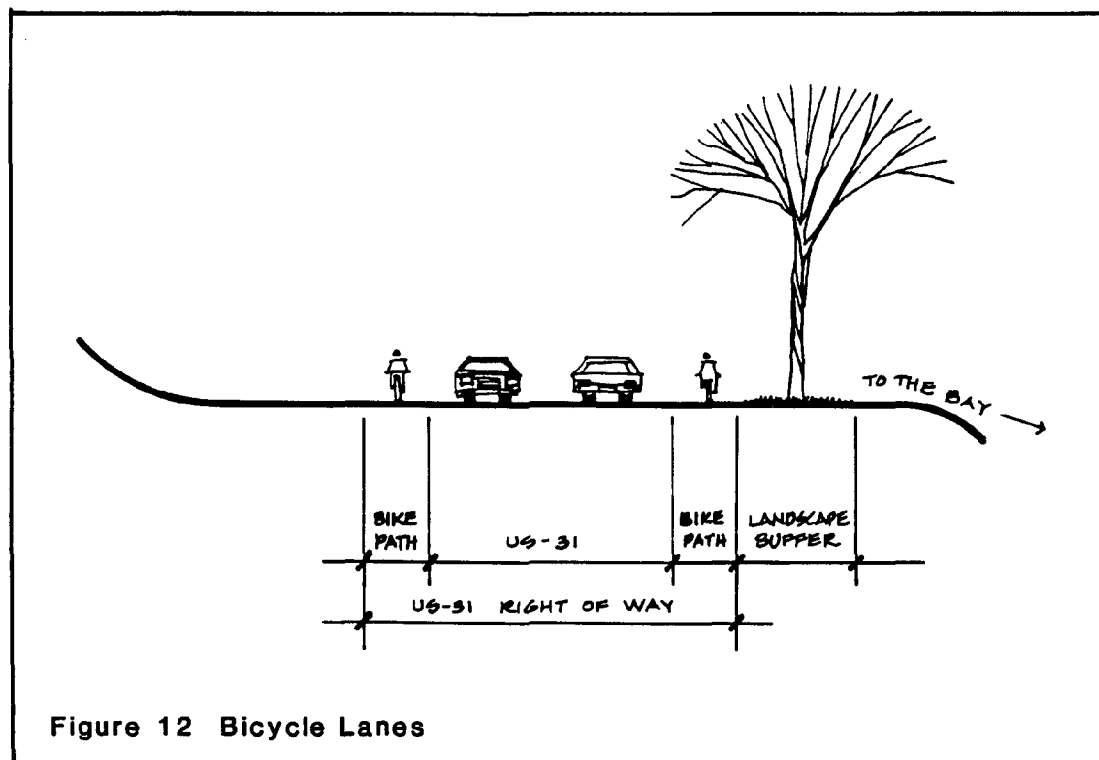
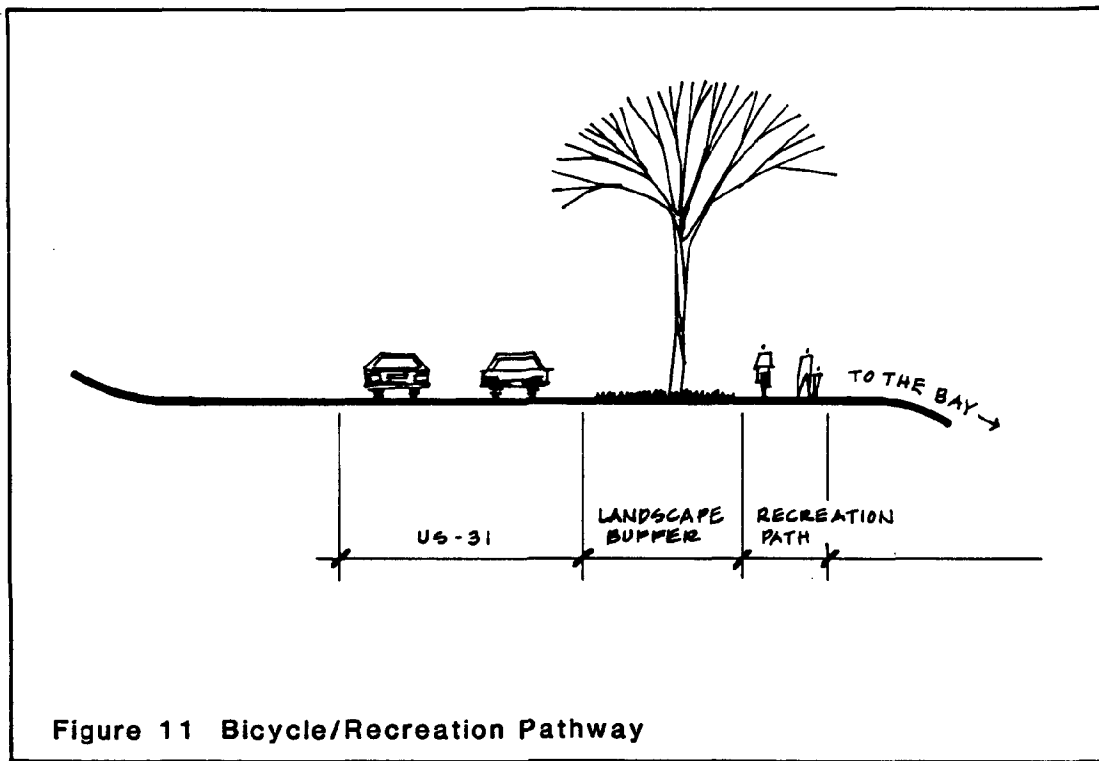
U.S. 31 is viewed differently by those traveling by foot or on bicycle than by those in automobiles. Smaller details have a greater impact on pedestrians and bicyclists than compared with motorists. The guidelines for developing pedestrian and bicycle paths should reflect the different characteristics associated with these slower moving forms of travel.

Currently, U.S. 31 has no sidewalks or bicycle paths. Resort Township encourages the development of non-motorized pathways along U.S. 31 in addition to road improvements as traffic increases over time.

There are several alternative methods to achieve a pedestrian and bicycle pathway along the U.S. 31 corridor. The most preferred design treatment for a bicycle pathway would involve developing the abandoned C & O Railroad right of way. The abandoned railroad tracks run parallel to U.S. 31 through the Dundee Cement Company property and connect the City of Petoskey with the City of Charlevoix. The Michigan Department of Transportation currently owns the tracks and right of way. Once the tracks are removed, however, the Courts will determine ownership of this land. Efforts should be made to encourage the



future landowner of the right of way to develop at least part of this linear strip of land for public use. A bicycle pathway could be located within a portion of the abandoned railroad right of way and continue on within the U.S. 31 right of way to create a continuous bike route between the City of Petoskey and the City of Charlevoix.



Another alternative design treatment would involve paving the shoulders of U.S. 31 for use as bicycle lanes. The width of these lanes should be between four to eight feet. White pavement striping on the outside edge of the highway should be used to help separate the shoulder from the roadway.

Sidewalks should be developed in areas along U.S. 31 where commercial businesses are located near residential areas. Sidewalks should be separated from the roadway by a ten foot wide lawn extension (minimum).

Protection of Natural Resources and Coastal Areas

The natural resources which require protection from development activities along the U.S. 31 corridor and coastal area are the steep slopes, sensitive soils, wetlands and drainage ways, the wooded areas, views of Little Traverse Bay and the overall visual character of the corridor. Similar to development activities such as siting new buildings, roads and parking areas, future landscaping efforts will greatly influence the natural resources found within the U.S. 31 corridor. Strategies for protecting the natural resources within the corridor are presented below. A table (Table 22) which identifies the location of the sensitive resources within the U.S. 31 corridor and the strategies to protect these resources is presented at the end of the U.S. 31 Corridor Management Plan.

Steep Slopes

Two important tools for limiting development on steep slopes along the U.S. 31 corridor are consideration of the proposed Land Use Plan and implementation of site plan review procedures. The proposed Land Use Plan recognizes areas of slopes greater than 18% as conservation lands. These lands containing slopes of 18% to 30% will require very sensitive site planning and restricted development activities. Additional landscaping with indigenous plant material, however, would be acceptable and advantageous to controlling soil erosion.

Sensitive Soils

Soils sensitive to development practices are identified in the Background Studies chapter of this Resource Use Management Plan. Soils identified as sensitive are associated with a high seasonal water table, high organic content and severe limitations for siting septic fields such as steep topography. Most of the areas containing sensitive soils within the corridor are recommended for conservation use by the proposed Land Use Plan.

Wetlands and Drainage Ways

Wetlands and drainage ways found within the U.S. 31 corridor zone are very sensitive to development activities. Wetlands within 1000 feet of Little Traverse Bay, as surveyed by the Tip of the Mitt Watershed Council, are identified in the Wetlands and Stream map found in the Background Studies chapter. Most of these wetlands are recommended as conservation zones in the Land Use Plan. Wetland areas not identified beyond the 1000 foot band around Little Traverse Bay and found within the U.S. 31 corridor may be recommended as conservation zones because of their sensitive soil characteristics. Additional field inspection, however, should be carried out for any proposed development plans to ensure accurate identification of wetland areas and drainage ways.

Woodlands

Mature stands of conifers and deciduous trees along the U.S. 31 corridor enhance the rural character associated with the Township. Woodland areas are classified as conservation zones in the Land Use Plan where associated with steep topography. Development within the U.S. 31 corridor, however, should be sensitive to the preservation of existing vegetation. Proposed development should capitalize on the benefits of incorporating existing vegetation into plan layouts. Site plan review procedures should include a thorough inspection of existing vegetation within a proposed development site and evaluate its importance to the corridor's desired character.

Views

Views of Little Traverse Bay from U.S. 31, neighboring businesses and residences are one of the most important resources of the Township. These views create an impression of the Township to visitors and residents. Some of the strategies available to protect these views include developing parklands overlooking Little Traverse Bay, negotiating scenic easements within the Bay Resort properties, selective clearing of wooded areas to open or define views and restricting building heights within the coastal area. Similar to the protection of other sensitive resources within the U.S. 31 corridor, scenic views should be considered during site plan review.

Landscaping

The appropriate use of plant materials along the U.S. 31 corridor will help to maintain the rural character associated with Resort Township. Future landscaping in both development and conservation zones will fulfill a variety of functions, such as directing views, buffering unattractive views, controlling soil erosion, modifying microclimates and improving the visual impact of development.

Future planting efforts within development zones will most likely be different from that of conservation zones, however, smooth transitions between zones should occur to reflect the overall rural character.

Development Zone Landscaping

Landscaping along the edge of U.S. 31 where development occurs should be uncluttered and consist primarily of large canopy trees and ground covers, turf grass or other low growing herbaceous plants. The large deciduous trees should have a minimum six foot branching height to permit views to buildings and signs from the road. Evergreen trees should be located only in areas where they will not obstruct views to buildings, signs or driveways. In addition, trees planted in

masses or double rows will have more visual impact and will be better sheltered from deleterious environmental factors such as a lack of soil moisture than trees planted in single rows. A variety of tree species should be planted to reduce the chances of disease spreading from one tree to another of the same species.

Shrub planting along the edge of U.S. 31 in development areas should be encouraged only in areas where it will not interfere with safe sight distance. Motorists need to see driveways and signs well in advance of the time required to react safely to incoming or turning vehicles. Shrub plantings can block views to buildings, signs, cross roads and driveways when located close to the road. Ideally, shrub planting should occur closer to buildings where their form, texture, color, etc. can be better appreciated by the pedestrian.

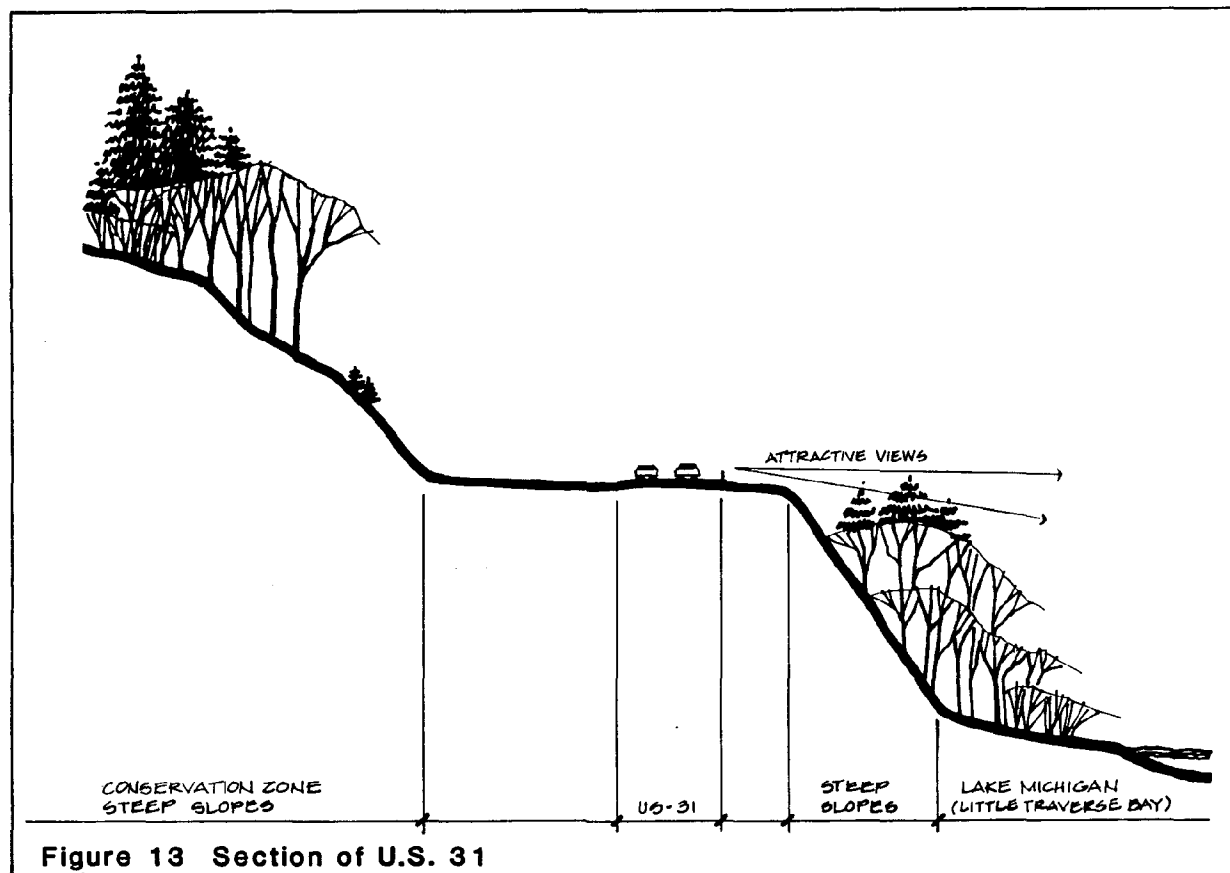
Berming is another common landscape practice which may be utilized. Earth mounds should blend with the existing topography to appear naturalistic. Traditional berming practices found within urbanized areas help buffer views of parking areas. Berms, however, may also block views to buildings and signs, and negatively contrast with the rural character associated with U.S. 31.

A better method than berming to reduce the negative aspects of parking lots is to plant large deciduous canopy trees in parking areas. The use of massed overstory trees will help fill in the overhead open plane common to parking lots.

Massed tree planting in parking areas and along U.S. 31 will help modify climate conditions, too. Deciduous trees which bud out late and drop their leaves early in the fall provide shade during warm summer months and allow sun to filter through during the cool springs and falls associated with northern Michigan. In addition, low branching evergreen trees planted in mass along the northwest side of parking lots and walkways will buffer winter winds from vehicles and pedestrians.

U.S. 31 Conservation Zone Landscaping

Planting in the proposed conservation zones will help reduce soil erosion from the steep slopes and enhance the desired rural character along U.S. 31. As the following section illustrates, the U.S. 31 corridor contains many areas with severe slopes. Plant materials which are adapted to drought conditions and aid in controlling soil erosion as a result of their spreading root systems should be located on steep slopes. Furthermore, native plant species which are similar in character to the existing trees, shrubs and ground covers should be used in conservation zones rather than exotic plant species. The native plant species will be better adapted to northern Michigan's fluctuating temperatures and blend in better with the existing landscape.



Implementation

Carrying out the recommendations suggested in this chapter will largely be the responsibility of the Resort Township Planning Commission and Township Board. Obviously, coordination will also be necessary with the County Offices as well as the Michigan Department of Transportation. Local government through zoning and capital improvements has the ongoing task of insuring compliance with this plan.

Fortunately, the U.S. 31 corridor is relatively undeveloped. Therefore, implementation of these guidelines will be relatively easy as long as close cooperation and coordination with governmental bodies is insured. The Michigan Department of Transportation (MDOT) will be directly involved with any improvements on U.S. 31. U.S. 31 is designated a federal highway with state administration. This means that the state has complete control over the operation and financing of any improvements. Improvements relating to traffic operations, driveway permits, signals, and street widening will be the responsibility of MDOT.

Preliminary discussions with MDOT officials indicate that a boulevard design for U.S. 31 may be a preferred alternative. Future traffic volumes and turning movements will warrant this design. The boulevard option will also offer a generous right of way with ample room for landscaping and scenic views.

In summary, implementation of these recommendations will largely be dependent upon the actions of the MDOT. However, proper site plan review and effective zoning on the part of the Township and County will also be extremely important. A summary of implementation strategies for the U.S. 31 and Coastal Area is presented in Table 21 and Table 22.

Table 21
Resort Township
U.S. 31 Corridor Management Plan

U.S. 31 Area	Future Land Uses	Traffic and Circulation Controls	Resource Protection Strategies	Development Policies
Epler Road to Blackbird Road	o Conservation	o Consolidate parking	o Establish generous front setbacks	o Establish Township identity
	o Parkland	o Consolidate driveways	o Restrict development on steep slopes	o Improve entrance appearance
	o Medium density residential	o Provide deceleration/acceleration lanes	o Maintain existing vegetation on steep slopes	o Enforce sign control spacing and size
	o Local business/office	o Where possible limit parking to side and rear yard areas	o Use indigenous plant species in landscaping efforts	o Impose detailed site plan review procedure
	o Highway commercial		o Restrict excessive land grading or berming	o Establish uniform street light and traffic signal treatment
			o Maintain views of Lake Michigan	o Bury utility lines where possible
Blackbird Road to Townsend Road	o Conservation	o Consolidate parking	o Establish generous front setbacks	o Enforce sign control spacing and size
	o Medium density residential	o Consolidate driveways	o Restrict development on steep slopes	o Impose detailed site plan review procedure
	o Local business/office	o Use secondary roadways where possible	o Maintain existing vegetation on steep slopes	o Establish uniform street light and traffic signal treatment
	o Highway commercial	o Provide deceleration/acceleration lanes	o Use indigenous plant species in landscaping efforts	o Bury utility lines where possible
	o Limited industrial	o Where possible limit parking to side and rear yard areas	o Restrict excessive land grading or berming	
	o Planned development		o Maintain views of Lake Michigan	
Townsend Road to Townline Road	o Conservation	o Consolidate parking	o Establish generous front setbacks	o Establish Township identity
	o Highway Commercial	o Consolidate driveways	o Restrict development on wetland soils	o Enforce sign control spacing and size
	o Multi-family residential	o Use secondary roadways where possible	o Restrict development on steep slopes	o Impose detailed site plan review procedure
	o Planned development	o Provide deceleration/acceleration lanes	o Maintain existing vegetation in wetland areas and on steep slopes	o Establish uniform street light and traffic signal treatment
		o Where possible limit parking to side and rear yard areas	o Use indigenous plant species in landscaping efforts	o Bury utility lines where possible
		o Utilize railroad right-of-way for pedestrian and bicycle use	o Restrict excessive land grading and berming	

Table 22
Resort Township
U.S. 31 Corridor
Strategies for Protection of Natural Resources

Resource	Location Along U.S. 31	Management Strategy
Steep Slopes	<ul style="list-style-type: none"> o South of U.S. 31 between Eppler Road and Lake Grove Road 	<ul style="list-style-type: none"> o Avoid development in areas containing 18% and greater slopes o Promote conservation land use in steep slope areas o Site plan review o Stabilize slopes with vegetation
Sensitive Soils	<ul style="list-style-type: none"> o South of U.S. 31 between Blackbird Road and Lake Grove Road o South and north of U.S. 31 between Camp Daggett Road and Townline Road 	<ul style="list-style-type: none"> o Promote conservation land use in areas containing sensitive soils o Site plan review
Wetlands	<ul style="list-style-type: none"> o North of U.S. 31 just east of Lake Grove Road and between Camp Daggett Road and Townline Road o South of U.S. 31 just west of Lake Grove Road o Possibly in other areas along south of U.S. 31 which were not surveyed 	<ul style="list-style-type: none"> o Promote conservation land use in wetland areas o Site plan review
Woodlands	<ul style="list-style-type: none"> o South of U.S. 31 just west of Blackbird Road, between Camp Daggett and Townline Roads and west of Lake Grove Road o North of U.S. 31 between Eppler Road and Resort Pike Road and Lake Grove Road area 	<ul style="list-style-type: none"> o Site plan review
Views	<ul style="list-style-type: none"> o Existing views of Little Traverse Bay between Eppler Road and Lake Grove Road 	<ul style="list-style-type: none"> o Acquire scenic overlooks for public use o Selective clearing of wooded areas to create views to the Bay o Scenic easements o Restrict building heights in coastal area o Site plan review
Landscaping	<ul style="list-style-type: none"> o Development zones o Conservation zones 	<ul style="list-style-type: none"> o Site plan review to control location and types of plant material used
U.S. 31 right-of-way and abandoned C&O railroad right-of-way	<ul style="list-style-type: none"> o C&O right-of-way parallels U.S. 31 	<ul style="list-style-type: none"> o Promote use of abandoned railroad right-of-way for pedestrian/bicycle use

RECREATION PLAN

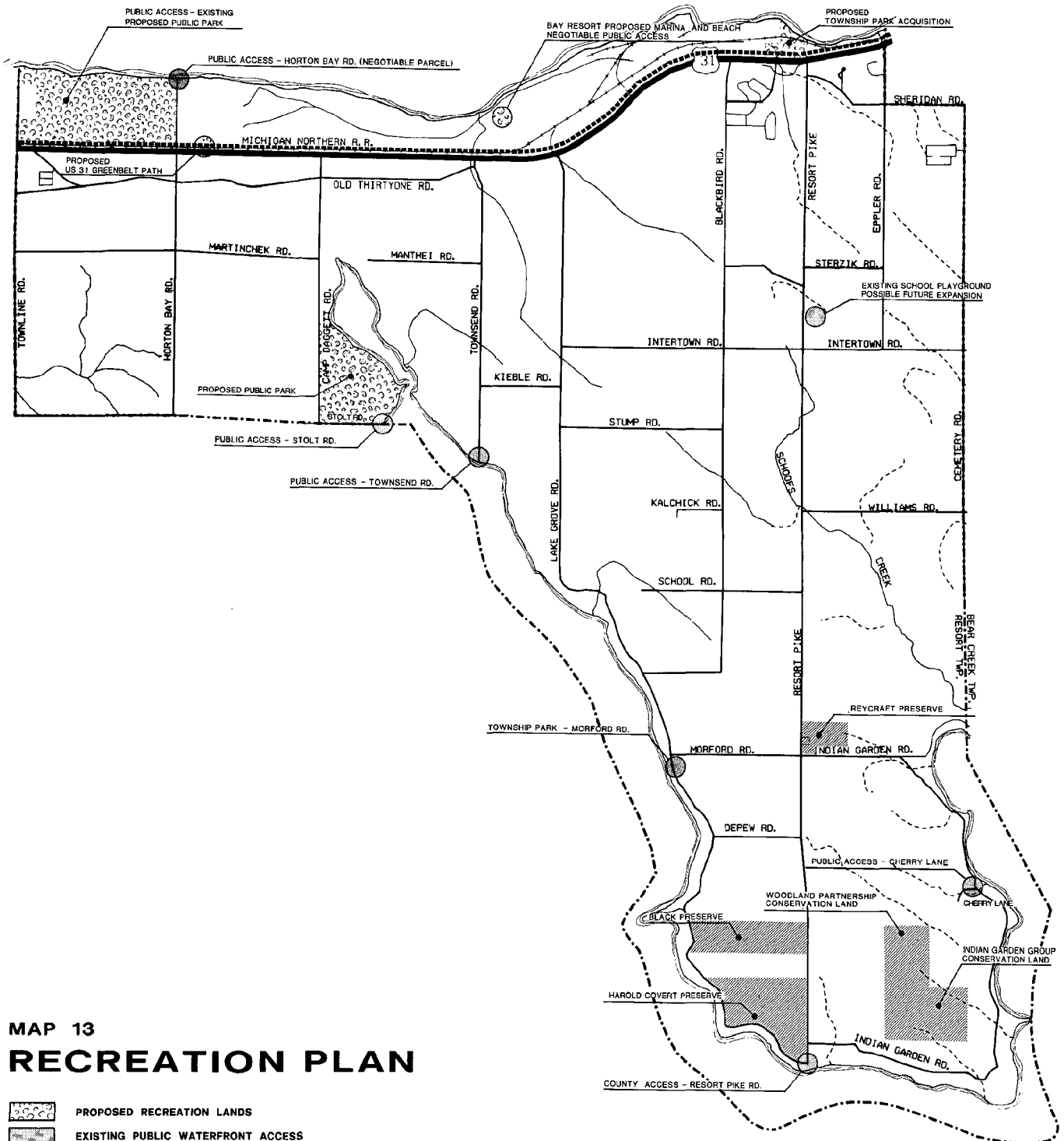
The following Recreation Plan outlines a ten year strategy program to meet the recreation needs of Resort Township's expanding population. Furthermore, the Recreation Plan is designed to be in compliance with partial grant requirements of the Michigan Department of Natural Resources. The Plan, recreation goals and associated policies, assess short-term and long-term recreation needs for the community and considers the maintenance or improvement of existing facilities. The Plan is the result of information gathered from the Township Planning Commission, Emmet County Planning personnel, the general public and the 1988 Citizen Questionnaire which solicited public input on the need for additional waterfront parks. In addition, the Recreation Plan assesses an inventory of existing facilities to determine the adequacy of these facilities to serve the needs of the community. This inventory is presented in the Background Studies chapter of this document.

Goal

- o Provide adequate parkland acreage and facilities to meet existing and future population needs.

Policies

- o Provide waterfront parks on Walloon Lake and Little Traverse Bay. The parks should be large enough to accommodate recreation activities such as boating, swimming, picnicking, hiking, ski and nature trails.
- o Consider improvements to existing waterfront access sites and the acquisition of other waterfront parcels.



- o Promote efforts to establish township parks with both active and passive recreation areas. Parks with facilities for ball games and picnicking, for example, would serve the needs of a variety of Township residents.
- o Promote neighborhood parks where the population density warrants the investment.
- o Require overall development and maintenance plan for recently acquired parklands.
- o Provide or arrange for personnel to properly maintain and police parklands.
- o Consider the carrying capacity of Walloon Lake and Little Traverse Bay in terms of recreational activities such as boating and fishing.

Community Recreation Need

When compared with national recreation standards, Resort Township lacks adequate parkland acreage. The National Recreation Park Association recommends a minimum standard of 10 acres of parkland per thousand persons in a community. Presently, Resort Township has approximately 1.1 acres of parkland adjacent to the Lake Grove Road/Morford Road public access point on Walloon Lake. In addition, approximately 1.0 acre of waterfront public access points, 10 acres of school property and 291.5 acres of conservation land are found in the Township. The conservation lands, however, are preserved primarily for wildlife habitat and offer limited recreational opportunities.

As identified in the 1987 Comprehensive Recreation Plan approximately 19.0 acres of parklands will be needed by the year 1990. A deficit of approximately 5.1 acres of parkland is expected for the Township in 1990. Substantially more acreage of parkland may be required to meet the needs of the Township should the proposed number of housing units be developed within the Bay Resort Properties.

The location of future parklands and the amount of parkland is a dual concern. Small neighborhood parks should be located within walking distance (less than 0.5 miles) of residential areas. In the future, small parks or playlots could be developed within new subdivisions especially in areas near higher density residential sections of the Township.

Furthermore, parkland acreage located next to water is considered highly desirable, as indicated by the Township wide 1988 Citizen Questionnaire results (presented in the Background Studies chapter). A land acquisition program and negotiations with the Bay Resort developers and other private waterfront landowners should be pursued by the Township in order to provide the desired waterfront recreational opportunities to the community.

The maintenance and management of existing recreation lands in addition to future parklands is an important component of the Recreation Plan and must be addressed throughout the implementation of the Plan. Management of parklands will involve providing police protection, organizing maintenance crews, providing storage facilities for equipment and arranging the necessary funds to support clean, safe and attractive recreational environments. Maintenance activities within parklands will include routine repairs and improvements to internal roads, parking lots, boat launch areas, pedestrian pathways and landscaping. The Township will have to commit the funds required to properly manage and maintain existing and future recreation facilities.

The impact on the Township tax base as a result of acquiring private lands for public use should be considered by the Township when pursuing the recommended recreation improvements. The loss to the tax base, however, may be outweighed by the benefits to the Township from improved recreational opportunities. These benefits would include attracting additional tourism and creating an even higher quality living environment.

In summary, there is a need to maintain existing recreation facilities, to provide additional recreational opportunities within the Township and specifically, to provide public access to waterfront areas. These recreation needs can be provided through short, medium and long-term programs.

Strategies

Short-Term Improvements

Short-term recreation improvements would occur within the next two years and would involve primarily low cost strategies. First of all, policing of existing waterfront access points is needed. Continued cooperation between the Charlevoix County Marine Patrol and the Emmet County Sheriff's office is necessary for adequate policing of waterfront access points. Second, the Township should continue negotiations with the Bay Resort developers to obtain public access to waterfront areas. One option would involve a land swap of the Horton Bay 66 foot road right-of-way for land adjacent to the Townline Road waterfront access point. If successful, the Township should begin the development of a park master plan for this site. Furthermore, the Township should continue to encourage the developers to provide a recreation greenbelt, preferably by utilizing the railroad right of way, along the southern edge of their property adjacent to U.S. 31.

The Township should also negotiate for public waterfront use within the proposed marina development. Public use activities which would be most compatible with the private development include picnicking, access to restaurants and shops, and boat launching. In addition, the Township should pursue the acquisition of two adjacent parcels west of Resort Pike Road and north of U.S. 31 and a large parcel of land bordering the west arm of Walloon Lake for development as a park. Grant monies from the Michigan Department of Natural Resources Trust Fund should be sought for parkland acquisition and development.

Medium-Term Improvements

The medium-term improvements would involve continued maintenance and policing of existing facilities and development of parklands acquired during the short-term improvements stage such as the potential roadside park west of Resort Pike Road and north of U.S. 31 and the Townline Road public access area. Furthermore, development of neighborhood parks should be encouraged in medium density residential areas. The medium-term improvements would occur during years 3 and 5.

Long-Term Improvements

The long-term improvements are proposed to begin in five years. In addition to continued maintenance and protection of recreation resources, the acquisition of large parcels of land for development as township parks should be pursued. Ideally, these parcels should be at least 20 acres in size, have water frontage and a variety of natural features to support a variety of recreational activities such as field sports, baseball, tennis, nature walks, swimming, boating, and picnicking.

A summary of the proposed timetable of improvements follows:

Short-Term Improvements

Acquisition

- Maintenance and policing of existing facilities
- Continued negotiations with Bay Resort developers to obtain public parkland adjacent to Little Traverse Bay
- Acquire land north of U.S. 31 and west of Resort Pike Road for park development

- Acquire large parcel of land on Walloon Lake for broad-scale recreational opportunities
- Enlarge and/or improve existing public accesses on Walloon Lake
- Submit grant applications to Michigan Department of Natural Resources Land Trust Fund Program

Medium-Term Improvements

Develop Plans

- Maintenance and policing of existing facilities
- Prepare development plans for acquired park sites
- Develop proposed parklands

Long-Term Improvements

- Maintenance and policing of existing facilities

VI

Implementation

IMPLEMENTATION

The resource use management plan for Resort Township is of little value unless it can be realistically implemented. The first and foremost factor in implementing this plan will be through the actions of the Township officials in their decisions regarding future growth and development.

This section of the plan identifies and describes various projects and implementation strategies which the Planning Commission, Township Board and County Officials can utilize to manage growth and development within the Township. In total, such strategies should help maintain the rural character of Resort Township and provide an impetus towards growth management controls.

Identification and Assessment of Management Strategies

The first step in this process was to identify all potential management strategies which might have validity for implementation. Such strategies were originally identified in Table 17 and are highlighted within the following Table 23. This table provides a summary of various management techniques which Township and County Officials should focus upon. All strategies have a high priority in that they can operate concurrently during the planning process. These strategies are summarized as follows:

Continued Land Use Planning. The Resort Township Planning Commission is charged with the responsibility of overseeing land use planning. The Resource Use Management Plan will act as a useful tool to guide both short term and long term development. The Plan for Resort Township is viewed as a relatively short range document because of a variety of unknown factors. For example, the exact timing and scope of development within the Bay Resort properties is unknown. Likewise, any future development of the U.S. 31 bypass is also unknown. It is likely, that within the next few years, a better concept for these projects will develop. It is recommended that the Resource Use Management Plan be revised by the Planning Commission to incorporate

Table 23
Resort Township
Implementation Strategies

Strategies	Implementation Tool	Implementation Responsibilities	Potential Grant Funding Sources	Comments
Continued Land Use Planning	Management Plan Zoning Ordinance	Planning Commission	- Coastal Zone Management - CDBG	The Planning Commission must periodically update the Management Plan. It is recommended that the Plan be updated in two years or upon completion of the MDOT-Bypass Study.
Zoning Ordinance	-----	Planning Commission	-----	The zoning ordinance will remain as the most effective method of implementing land use plans.
Preservation of Agriculture	Management Plan Zoning Ordinance Lot Splitting, P.A. 116	Township/County Officials	-----	Reflects high priority policies as indicated in citizen response to questionnaire and planning commission input.
Preservation of Natural Resources and Unique Features	Management Plan Conservation Zones Land Use Policies Site Plan Review Scenic Easements Conservation Easements State Legislation	Township/County Officials where possible	- Coastal Zone Management	Steep slopes, scenic views, wetlands and other resources must be protected.
Management of Coastal Inland Lake Resources	Management Plan Conservation Zones Land Use Policies Site Plan Review Zoning Ordinance Setbacks/Buffer Strips Waterfront Acquisition Anti-Keyholing Ordinances State and Federal	Township/County Officials and Lake Associations	- Coastal Zone Management - Natural Resources Trust Fund	Wherever possible, public waterfront access should be insured. Protection of scenic vistas as well as water quality is required.
Management of U.S. 31 Corridor	Management Plan Zoning Ordinance Site Plan Review MDOT Coordination Sign Control	Township/County/MDOT	- MDOT - Federal Highway	New development along U.S. must be carefully managed in order to minimize traffic impacts and to protect natural resources.
Township Administration	Development of Township Ordinance Zoning Administrator Development of Special Purpose Ordinances and Regulations o Private Roads o Lot Splitting o Subdivision Regulations o Engineering Standards o Anti-Keyholing	Township	-----	As development occurs, the Township Administration and staff must organize to manage growth and development.

development plans associated with the Bay Resort properties or U.S. 31 bypass.

Zoning Ordinance. Resort Township currently operates under the Emmet County Zoning Ordinance, but has considered adopting their own zoning ordinance. This may be necessitated by development of the Bay Resort project. There are advantages and disadvantages of county and township zoning ordinances which must be carefully weighed. Township zoning will provide more control by the Township, however, the adoption of a township ordinance will require a greater commitment of staff personnel and finances to administer the zoning ordinance and zoning procedures. The Township can also contract with the County for zoning services and site plan review.

In the interim, it is recommended that revisions to the County Zoning Ordinance be considered for Resort Township. More specifically a separate commercial zoning district such as the B-3 zoning ordinance currently in effect for Emmet County should be considered for the areas within the U.S. 31 corridor. By developing a new zoning district the Township could enact more stringent regulations dealing with setbacks, signs, permitted uses, and general revisions to the schedule of zoning regulations.

Preservation of Agriculture. The preservation of agricultural lands was listed as a top priority within the results obtained from the citizen questionnaire. The Planning Commission has assigned top priority to retaining the rural character of Resort Township. Recommended management strategies to preserve agricultural lands include the adoption of a land use plan which outlines prime and reserve agricultural properties. The Township may also consider establishing agricultural zoning districts and adoption of a lot splitting ordinance which will help regulate development of rural lands.

Preservation of Natural Resources and Unique Features. Resort Township's Resource Use Management Plan emphasizes the protection of natural resources within the Township. Implementation tools of this policy include designation of unique features such as conservation zones. The Township Planning Commission and County Officials must also exercise close scrutiny of development through site plan review procedures to determine potential impacts on fragile lands. Wherever possible it is recommended that scenic easements and/or conservation easements be established to preserve important features.

Management of Coastal and Inland Lake Resources. The Resource Use Management Plan recommends conservation zones for areas containing fragile lands. It is also recommended that the Township adopt a strategy of detailed development review for future projects involving waterfront development. Where possible the Township should also consider waterfront acquisition to preserve and protect important waterfront areas as well as to offer Township residents additional waterfront access.

Management of U.S. 31 Corridor. Through a combination of land use management, zoning ordinance regulations and site plan review, future development along U.S. 31 can be managed. It is recommended that close cooperation with officials from the Michigan Department of Transportation regarding driveway location, permits, sign control, setbacks, and other regulations also be enforced.

Township Administration. As development occurs within Resort Township, the Township and/or County may have to add staff for the review of development plans. It is conceivable that the Township would want to adopt their own zoning ordinance. The Township must realize, however, that the adoption of their own zoning ordinance will require enforcement capability and interpretation, all requiring the addition of Township personnel. The Township may also wish to adopt special purpose ordinances and regulations. These may include:

- private road ordinance
- lot splitting ordinance
- subdivision regulations
- engineering standards
- anti-keyholing regulations

Phasing. As mentioned earlier, the Resort Township Resource Use Management Plan should be viewed as a relatively short range document to assist growth management over the next three to five years. It is likely, however, that an update will be necessary after two years. This is because of the influences associated with the Bay Resort project and also with the MDOT - U.S. 31 bypass project. Both of these developments will have a major impact upon the future land use of the Township.

Other management strategies presented within this plan dealing with the preservation of agriculture, preservation of natural resources and management of the U.S. 31 corridor are relatively long range and will provide planning assistance for five to ten years.

Grant Programs. This Resource Use Management Plan was in part funded by a grant offered through the Coastal Zone Management section of the Michigan Department of Natural Resources. This funding source will remain as an important source for future planning efforts. Funds may also be available through this grant program for low cost construction of public waterfront access sites.

Additional recreation grants for park acquisition or development are available through the Michigan Natural Resources Trust Fund. This grant program places priorities upon projects involving waterfront access.

There are a variety of other grant programs available through State and Federal resources which also maybe applicable to Resort Township's needs. These include: ,

- Michigan Department of Natural Resources
 - o Waterways Division
- Michigan Department of Transportation
 - o Federal Aid to Urban Systems
 - o Bicycle and Pedestrian Trails
 - o Federal Highway Administration Funds
- Farmers Home Administration
 - o Water and Wastewater Loans/Grants
- Michigan State Housing Development Authority
 - o Senior Citizen Housing
 - o Community Home Improvement Programs

Conclusion

The Resource Use Management Plan can only go so far by itself. The important next step must be taken by the citizens of the community. In many ways the process of developing a plan is as important as the product. Through continued community meetings and discussions a cohesive community spirit will emerge which will hopefully endure and act as a catalyst for long term management.

The Resource Use Management Plan is intended to provide a guide for long term management of the Township. The recommendations of the Plan are given value through the continued efforts and commitments through the residents of the Township. It is through this commitment that a high quality living environment will be ensured for future and current residents.

VII

Appendix

RESORT TOWNSHIP
RESOURCE MANAGEMENT PLAN CITIZEN QUESTIONNAIRE

INTRODUCTION

Resort Township is currently in the process of developing a Resource Management Plan. As a part of this planning process, the Township Board and Planning Committee is keenly interested in citizen attitudes toward growth and development. Your input is most important in this planning process. We have enclosed a questionnaire which will aid Township officials in understanding your feelings and concerns on important Township issues. This questionnaire is being sent to every household within Resort Township in hopes of involving the residents in this planning effort. All responses will remain strictly confidential.

INSTRUCTIONS

We request that the head of the household complete the questionnaire and fold and insert it into the enclosed stamped envelope. Please answer the survey thoughtfully and mail it prior to March 14, 1988. Thank you for your time and consideration in this matter. If you have any questions, please feel free to contact a Township Official or the Emmet County Planning Department (616)-348-1731.

Resort Township Planning Committee

Part A - General Comments

- 1) Residents are encouraged to submit comments which will be helpful to the Planning Committee in formulating the Township's Management Plan. We are especially interested in what you like about Resort Township and what are some problems Resort Township should address. Use additional paper if necessary.

Part B - Background Data

- 2) Number of years as a Township Resident? _____ years
- 3) Age: (please check) _____ 18 - 25 _____ 46 - 55
 _____ 26 - 35 _____ 56 - 61
 _____ 36 - 45 _____ 62 and over
- 4) Are you a year-round or seasonal resident of Resort Township?
 _____ seasonal _____ year-round
- 5) Do you own waterfront property? _____ yes _____ no
- 6) How much property do you own? _____ 0 acres (renter) _____ 11-40 acres
 _____ 1 acre or less _____ 41 plus acres
 _____ 2-10 acres

(OVER)

Please mark the box below the column heading which most closely describes your feelings regarding each of the following statements.

Part C - Housing and Land Use Preference

	Strongly Agree	Somewhat Agree	No Opinion	Somewhat Disagree	Strongly Disagree
7) The Township should promote efforts to retain farming, and the rural character of the area.....					
8) Large size lots (1 to 2 acres) for individual non-waterfront home sites should be encouraged...					
9) Development of single-family subdivisions in appropriate locations should be encouraged.....					
10) Development of apartments/townhouses/condominiums in appropriate locations should be encouraged....					
11) Development of senior citizen housing should be encouraged.....					
12) The Township should promote efforts to retain the present scenic and rural character of the US-31 corridor.....					

Part D - Commercial and Industrial Preference

13) The US-31 corridor should be primarily developed for residential uses.....					
14) Some industrial development should be allowed along US-31.....					
15) Some commercial development (fast food, gas station, shopping center, etc.) should be allowed along the US-31 corridor.....					
16) Development of neighborhood and convenience type shopping facilities should be encouraged in appropriate areas.....					
17) Resort Township should promote efforts to attract new industry.....					
18) The Township should promote efforts to construct an industrial park.....					

Part E - Attitudes on Roads and Parks

19) Main roads within Resort Township are currently adequate and capable of handling existing traffic.....					
20) The main roads within the Township will be capable of supporting traffic demands generated by future development such as the proposed resort on the Dundee Cement site.....					
21) The Township should promote efforts to provide waterfront parks.....					

THANK YOU FOR YOUR PARTICIPATION AND ASSISTANCE

THE IMPORTANCE OF RESORT TOWNSHIPS WATER RESOURCES

Groundwater

Virtually every household in Resort Township relies on groundwater for domestic water supplies. Due to the well drained nature of the soils, groundwater recharge probably occurs throughout the township. This makes the groundwater resource vulnerable to pollution. It is imperative that groundwater quality be protected.

Surface Water

Resort Township has approximately nine miles of shoreline on Walloon Lake. The water quality of the lake is important to the township in several ways. Most obvious are its aesthetic and recreational values for those who enjoy the views and vistas, the excellent boating, fishing, skiing, and swimming that its clean waters offer. The economic base of the township also relates to water quality. A study by the Northwest Michigan Council of Governments found that water quality was directly correlated to property value. Shoreline property around clean lakes is more valuable and therefore provides a better local tax base than does property surrounding lakes with poor water quality.

Wetlands

There are a number of wetland areas bordering Walloon Lake. They benefit the lake by acting as natural water filters, protecting the lake from sediments, nutrients (phosphorus and nitrogen), by removing them from the water. Some wetland plants and soils also retain and/or detoxify many heavy metals, pesticides and hydrocarbons.

Sediments eroded from uplands are trapped by wetlands. These eroded sediments often have nutrients and other pollutants absorbed onto their surfaces. Wetlands slow the water flow, allowing time for the deposition of the sediments, thereby keeping the particles from reaching the nearby surface water bodies.

Wetlands and groundwater resources are closely related. Shoreline wetlands often serve as discharge areas where groundwater is released to the surface, providing high quality surface water.

The wetland vegetation binds the soil together, strengthening the shoreline against the force of waves.

Wetlands are important habitats which support populations of fish, waterfowl, fur bearers and large mammals. Some examples of wetland-dependent wildlife include ducks, geese, swans, herons, egrets, muskrats, mink, beaver, songbirds, bobcat, northern pike, walleye, and muskie. Endangered plant and animal species also inhabit wetlands.

Humans rely on wetlands for recreational activities, which range from hunting, fishing and canoeing, to bird watching, nature study, and photography. Wetlands also provide educational and research opportunities.

Wetlands are areas which provide open space and aesthetic values. They add diversity and beauty to the landscape, and can increase neighboring property values.

Hydrology

Watersheds

Resort Township is situated in parts of three watersheds. Approximately one-third of the Township lies in the Walloon Lake Watershed, some two-thirds in the Lake Michigan Watershed, and a small portion of the Township is in the Lake Charlevoix Watershed.

The elevation of Walloon Lake is about 100 feet above the level of Lake Michigan, and it drains to Lake Michigan via the Bear River.

Soils and Geology

The soils of Resort Township are a critical part of the local hydrology. For the most part, soils determine how much precipitation runs off the land in drainways and streams, and how much percolates through the soil to recharge groundwater.

The two major associations in the Township are in Emmet and Blue Lake-Leelanau associations. The Emmet association is characterized as deep and well drained loamy soils on morains. The Blue Lake-Leelanau association consists of deep, well drained, nearly level to very steep sand soils on morains. The permeability ranges from a moderately fast rate of 2-6 inches per hour for the Emmet association to 6-20 inches per hour for the Blue Lake-Leelanau association.

Small areas of three other soil associations are also found within Resort Township. The poorly drained soils of the Carbondale-Tawas-Roscommon association are present in the Schoofs Creek Wetland at the north end of Walloon Lake's North Arm. Along the Lake Michigan shoreline there are deep well drained, sandy soils of the East Lake-Blue Lake-Kalkaska association. Also present along this shoreline are soils of the Alpena, sandy variant-St. Ignace-Longrie association. They range from deep sandy, well-drained soils to shallow, moderately well-drained loamy soils.

The unconsolidated material under the surface soils are highly variable, but typical for glacial morain deposits. Highly permeable beds of sand and gravel are interspersed with impermeable layers of clay. This has produced a situation in which there are a number of discontinuous water bearing strata at various depths. Underlying the glacial deposits are water bearing bedrock strata of limestone and shale.

Hydrologic Cycle

When precipitation reaches the land surface it follows three separate paths in the water cycle. One portion is returned directly to the atmosphere through evapotranspiration. Some of the water runs off the land into drainways and streams. The remaining water infiltrates deeply into the soil and recharges the groundwater. The groundwater generally flows down gradient and discharges

into lakes and streams. In most cases the surface of a lake is simply an extension of the water table from the surrounding lands.

Management Implications

Groundwater

The presence of large areas of highly permeable soils and limited numbers of surface drainages indicate that broad areas of Resort Township serve as groundwater recharge areas. This creates a high potential for groundwater contamination as precipitation flushes soluble materials into the groundwater. Once pollution reaches the groundwater it is extremely difficult if not impossible to remove. Therefore, caution must be exercised to ensure that the groundwaters are protected from pollution.

Surface Water

The water quality of Walloon Lake in Resort Township is excellent. This is due in part to the source of water feeding into the lake. According to the Project Vigilant, 75-90% of water entering the lake comes from groundwater, (Walloon Lake Water Quality Studies: Phase Two of Project Vigilant, Limno-Tech, Inc. 1987). Groundwater is typically low in nutrients which stimulate algae growth and cause water quality to decline. Surface runoff on the other hand generally contains higher nutrient concentrations.

Two other factors which help protect the water quality of the lake are the chemical nature of the water and the lake volume. Walloon Lake has high alkalinity which allows marl to form. As the marl sinks, it helps remove phosphorus from the water. The large volume of the lake helps to dilute incoming nutrients.

Walloon Lake's flushing rate and shoreline development factor tend to work against protecting water quality. The slow flushing rate of 6-8 years allows nutrients to concentrate within the lake. The lake also has a very long shoreline in relationship to its surface area. This increases the potential of shoreline influences to affect water quality. Project Vigilant found that as much as 40% of the phosphorus entering the lake comes from shoreline septic systems. Transport of septic effluent to the lake is easily facilitated by the high volume of groundwater discharging into the lake.

The distance between the groundwater and the land surface is usually at a minimum along streams and lakeshores. Activities that impact groundwater in these areas can directly impact surface waters. Runoff from rainstorms and/or snowmelt has a direct impact on surface waters in shoreline areas.

Wetlands

Before Michigan was settled by Europeans it had over 11 million acres of wetlands. Since that time more than 70% have been drained or filled. Each year the Department of Natural Resources receives greater numbers of applications for dredge and fill activities in wetlands. Many Shoreline wetlands in Resort Township have already been fill or drained. This makes the remaining wetlands extremely valuable to Walloon Lake, wildlife, and people.

Resort Township's remaining wetlands must be protected from unreasonable uses that destroy or diminish the benefits wetlands provide.

Recommendations

Groundwater Protection

- 1) Individual site plans must be closely reviewed to ascertain their potential to impact groundwater quality. A Groundwater Protection Plan should be submitted for review prior to the issuance of any permits. The applicant must demonstrate that the proposed activity will not adversely impact groundwater.
- 2) Encourage the placement of fuel oil storage tanks in the basements of the homes. Tanks that are protected from the elements are less likely to leak and pollute the groundwater. Above ground tanks should be placed on a concrete pad to contain any spills. They should also be located at the end of structures rather than under the eaves. This will help prevent damage from ice and snow.

A township ordinance for permitting underground storage tanks (UST) should be considered. This could require the applicant to demonstrate the need for a UST and lack of reasonable alternatives. The permitting process could be used as an opportunity to provide educational information on UST's to those who receive a permit.

- 3) All residents in the Township should apply fertilizers and pesticides at recommended rates. Farmers should be encouraged to develop fertilizer and pesticide management plans through the Cooperative Extension Service.

Surface Water Protection

- 1) Discourage the use of phosphorous fertilizer within 100 feet of the lakeshore, as fertilizer can add nutrients to the lake. Improper timing of application and application of incorrect fertilizer mixtures at rates that exceed the lawn's needs are common problems.
- 2) Encourage the incorporation of greenbelts in all site plans. A minimum width of 35 feet is recommended. Greenbelts help filter nutrients and sediments from surface runoff. In addition, they can intercept nutrients in shallow groundwater and provide a natural appearance to the shoreline to enhance the aesthetic value of the lake.
- 3) Any proposed commercial, industrial, residential, or institutional development should be required to submit a stormwater management plan during the site plan review process. Runoff from impermeable surfaces commonly contain oil, pesticides and other toxic or hazardous materials.
- 4) Maintenance of natural vegetation along all drainways should be encouraged. This includes all streams designated on USGS maps and their intermittent tributaries. The placement of soluble or easily transportable material in or adjacent to these drainways should be discouraged.

Developments along streams should maintain a greenbelt at least 35 feet wide. Dwellings and structures should be placed no closer than 60 feet from streams with a minimum lot frontage of 100 feet per dwelling.

- 5) Farmers should be encouraged to work with the Soil Conservation Service to identify and implement Best Management Practices to protect water quality and to control soil erosion and runoff.
- 6) Lakefront homeowners should provide periodic maintenance of septic systems to keep them operational and in sound condition. Homeowners whose septic systems are adding nutrients to the lake should be encouraged to contact the County Sanitarian to discuss alternatives for lessening or eliminating problems.
- 7) Encourage the installation of water conservation devices in all shoreline homes. The use of water conserving toilets and other appliances can extend the useful life of a septic system and decrease nutrient export to surface waters.

Wetlands

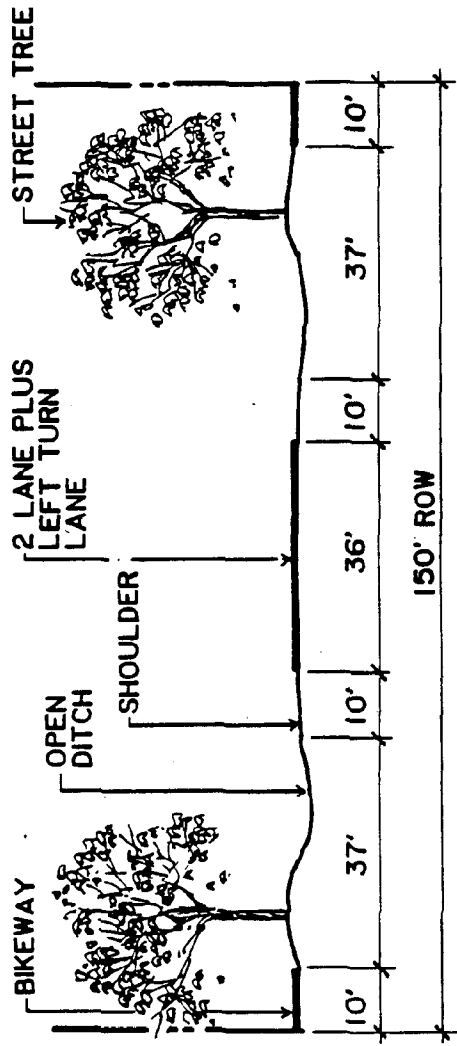
- 1) Thorough local review of permit applications for activities in shoreline wetlands should be encouraged. The County Zoning Ordinance should be amended to provide for stricter controls on shoreline wetland development in designated RR-2 districts within the Township. A minimum lot width of 200 feet should be implemented to reduce the impact of development in shoreline wetlands.
- 2) No plat should be approved that include lots without upland building sites. If no upland building site is included on each platted lot, the MDNR will be much more likely to issue a permit involving wetland conversion. Once lots are established that include only wetland areas, there are relatively few options for the purchaser of the lot. This situation can be avoided by ensuring that all approved platted lots contain buildable upland areas.
- 3) In reviewing a proposed development, special attention should be given to upland alternatives that would avoid wetland loss, including alternate site configurations and other available sites.

Some proposed developments include wetland losses that are avoidable without compromising the purpose of the development. The MDNR attempts to review available alternatives for wetland development, but often has incomplete information. Local review can provide more through analysis of alternatives that may be available for specific wetland developments, such as readily available upland at another location.

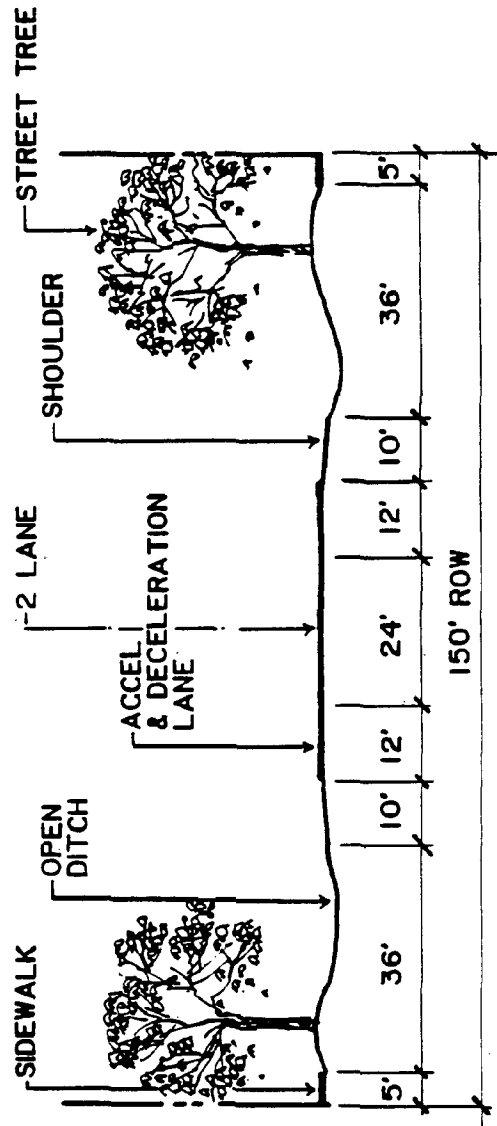
- 4) The Township should adopt a policy of no net loss of wetland area or function. Mitigation plans should be required to replace unavoidable wetland losses that occur as a result of development.

The wetland resource in northern Michigan has been heavily impacted by previous activities. Long term water quality protection is vital to the economy of the region, and wetlands play an important role in protecting

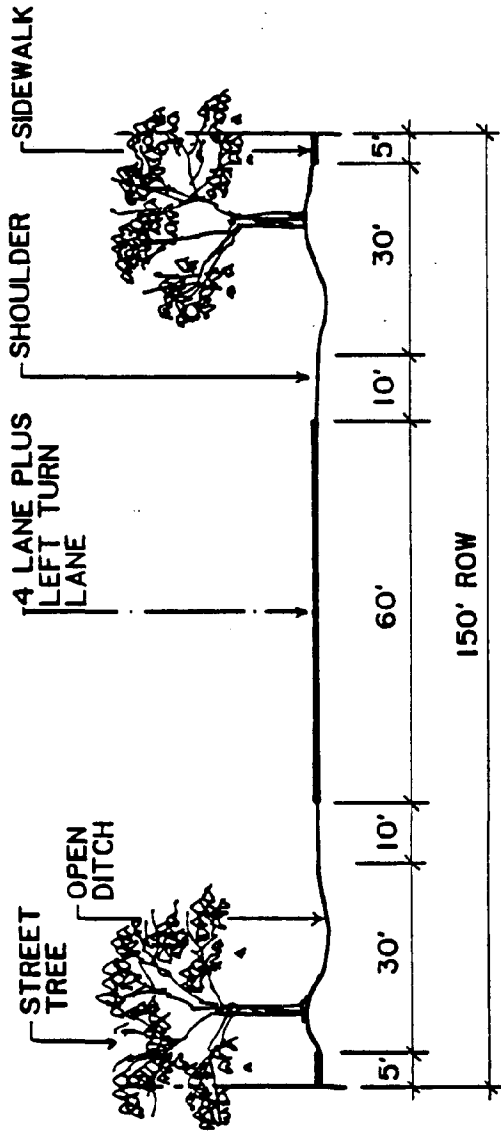
water quality. No additional losses of wetland area or function should be permitted because of the long term effect on water quality.



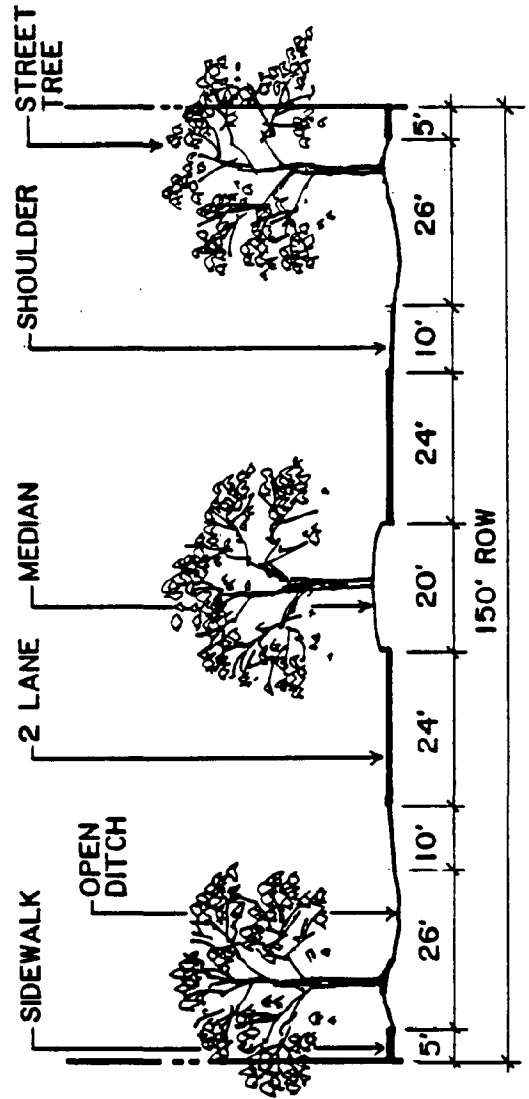
THREE LANE



FOUR LANE



FIVE LANE



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